Proposition 1B: Goods Movement Emission Reduction Program

Public Workshops

January 7, 2008 - Sacramento
January 8, 2008 - Oakland
January 9, 2008 - Fresno
January 10, 2008 - Long Beach
January 11, 2008 - San Diego

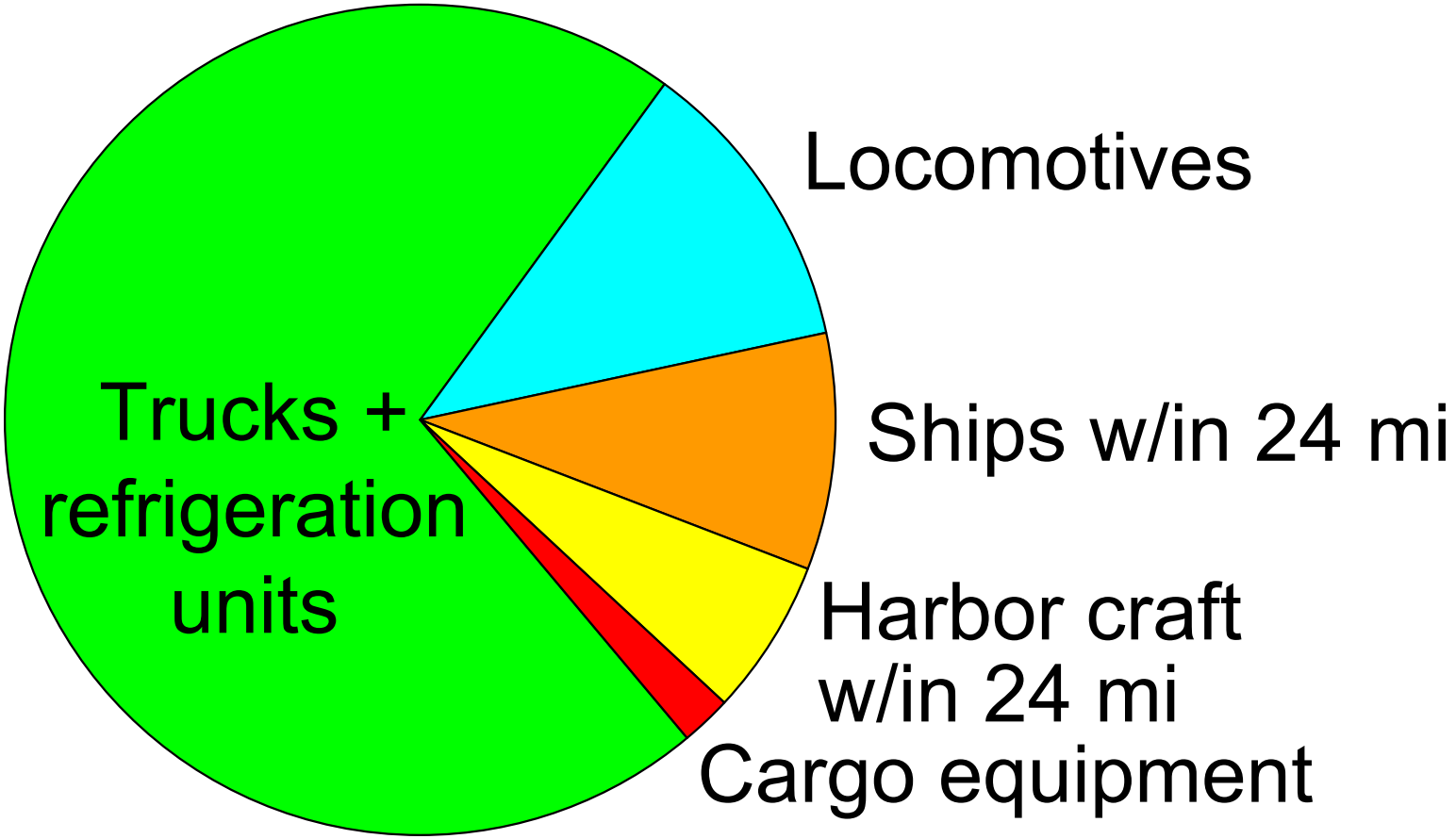
Air Resources Board

California Environmental Protection Agency

OVERVIEW

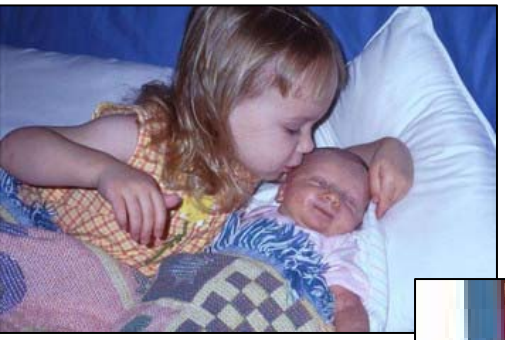
- What is the basis for the proposal?
- What are staff's key recommendations?
- How would local agencies apply and compete for funding?
- What kinds of equipment projects would be eligible for FY2007-08 funding and how would they compete?

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



Program Objectives

- Reduce emissions & health risk as quickly as possible in heavily impacted communities
- Incorporate simplicity and efficiency
- Ensure cost-effectiveness, leverage funds
- Provide accountability and transparency





Program Authority

- Voter-approved Proposition 1B
  - $1 billion for emission reductions (not required by law or regulation) from activities related to the movement of freight along California's four priority trade corridors
- Implementing legislation
  - SB 88 and AB 201 establish 15+ funding criteria
  - FY2007-08 budget provides first $250 million

Program Principles

Focused	- Seek earliest risk reduction in communities with highest GM risk
Simple	- Target specific projects - Set equipment funding cap
Efficient	- Target large-scale programs - Minimize administrative overhead
Cost-Effective	- Maximize reductions/$ invested
Leverage	- Maximize non-state match
Transparent	- Propose funding targets
Accountable	- Keep equipment in California - Monitor, report and audit

Proposed Corridor Funding Targets*

Factors	LA/Inland Empire	Central Valley	Bay Area	SD/ Border
Population	51%	17%	22%	10%
Freight emissions	45%	26%	20%	9%
SIP needs	70%	30%	0%	0%
Average	*55%*	*25%*	*14%*	*6%*
Proposal	**$550M**	**$250M**	**$140M**	**$60M**

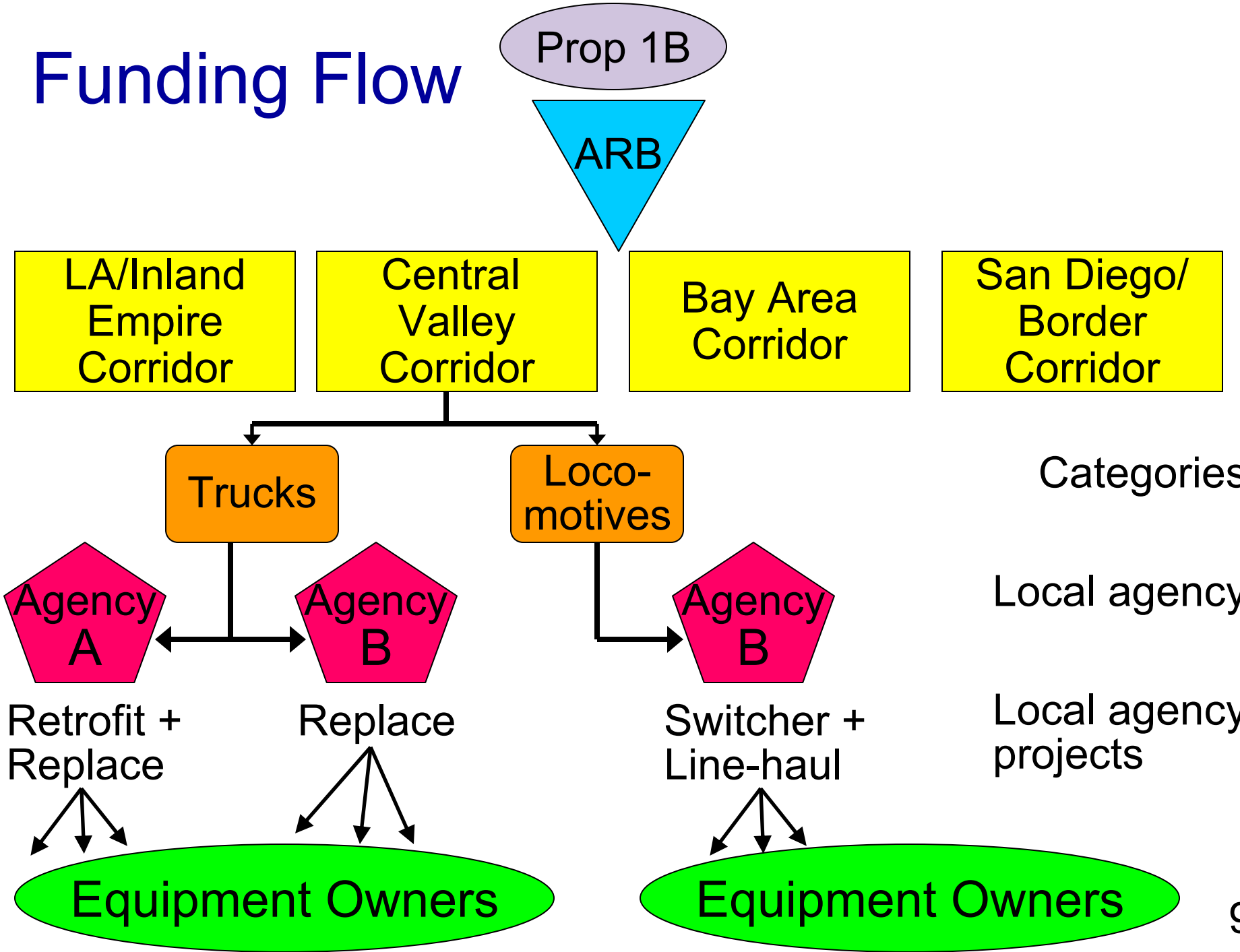
* Includes ~8% in overall Program administrative funds

Proposed
Source Category Funding Targets*

$400M	Heavy duty diesel trucks serving seaports and intermodal rail yards
$360M	Other heavy duty diesel trucks, plus truck stop electrification
$100M	Diesel freight locomotives
$100M	Shore power for cargo ships at berth, plus cargo handling equipment
$ 40M	Commercial harbor craft

* Includes ~8% in overall Program administrative funds

Funding Flow



Program Benefits

- $1 billion Program with proposed source category funding targets would reduce:
  - About 7,400 tons of diesel PM emissions
  - And 185,000 tons of NOx emissions
  - SOx emissions through shore power
  - 1.3 million tons of carbon dioxide
- Cost-effectiveness ranges from 0.3-2.6 lbs weighted emission reductions per State $
- Greatest benefits in communities near goods movement facilities

Staff Priorities for $250M in FY2007-08 Funds

- Eligible projects ready for quick implementation
- Truck retrofit projects to add diesel PM filters
- Truck replacement at the Ports of LA/Long Beach

Early Grant Recommendations

Funding	Air District	Project(s)
$13.8M	South Coast	•Replace 130 port trucks •Replace 130 other trucks
$5.7M	SJ Valley	•Retrofit 450 trucks •Replace 60 trucks
$0.8M	Sac Metro	•Replace 15 trucks
$3.4M	Bay Area	•Shore power @ 2 berths •Retrofit 75 port trucks
$1.3M	San Diego	•Replace/retrofit port trucks •Retrofit 115 Imperial trucks
$25M		

Public Participation

- Development of program guidelines, funding criteria and targets
- Annual review of local agency applications and recommendations for ARB funding
- Ranked equipment project list on web
- Project status information on web
- Regular progress reports
- Annual community meetings

Schedule

Jan 7-11	Public workshops
Jan 14	Full draft guidelines available
Jan 24-25	Board approves guidelines, targets, and $25M in early grants
Mar 1	Local agency applications due
Apr 1-30	Ranked local agency projects posted Workshops and staff recommendations
May 22	Board approves $225M in projects
May 22-Jun	Grant agreements with local agencies
July+	Local agency implementation begins Contracts with equipment owners Equipment installed/operational

Local Agency Projects

Local Agency Responsibilities

- Complete application
- Legal grant agreement with ARB
- Adequate staffing
- Outreach and competitive process to fund equipment projects
- Contracts w/equipment owners
- Equipment inspections and monitoring
- Projects completed on time
- Data and reports to ARB
- Fiscal controls and audit participation

Local Agency Applications to Request Funding from ARB

By source category, describe/demonstrate:

- Detailed project proposal and schedule
- Capacity to administer project
- How project will be implemented to meet requirements of Guidelines
- Full funding and fiscal controls
- Emission reductions and cost-effectiveness
- Public participation

Selecting Local Agency Projects
Step 1: Competitive Ranking (example)

- Local agencies A, B, C in same corridor propose truck projects
- Agencies/projects are screened for eligibility
- Demonstrations of # trucks that can be upgraded within timeframe are evaluated
- Prioritization factors are determined:
  - ***Emission reduction factor*** = Reduction in NOx + (diesel PM x 20) in all corridors over project life
  - ***Cost-effectiveness and match factor*** = weighted emission reductions/total State $

Selecting Local Agency Projects
Step 1: Competitive Ranking (example)

Emission Reduction Factor		Cost-Effectiveness and Match Factor	
B-90 tons	Score: 3	A-1.5 lbs/$	Score: 3
A-80 tons	Score: 2	C-0.8 lbs/$	Score: 2
C-65 tons	Score: 1	B-0.3 lbs/$	Score: 1

Competitive Ranking (post on web)	
Project A: 2+3	5 points
Project B: 3+1	4 points
Project C: 1+2	3 points

Selecting Local Agency Projects
Step 2: Funding Level (example)

- Consider overall Program funding targets by corridor and source category
- Consider available funds and priorities identified by the Board for that fiscal year
- Establish funding level for top project (local agency proposal may be pro-rated)
- Assess next project(s) if additional funds available for that corridor/source category

Selecting Local Agency Projects
ARB Process

- Staff posts preliminary list of projects being considered for funding on public website
- Public provides comments at workshops
- Staff publishes list of recommended projects and funding levels
- Board holds hearing, considers testimony, and adopts final list of projects for funding
- Staff executes grant agreements with local agencies

Project Completion Deadlines

For FY 2007-08 staff recommends:

- From grant agreement with ARB, 18 months to sign contracts with equipment owners obligating full grant $ (minus any admin)
- Then project completion/final payment within:
  - 1 yr: cargo equipment
  - 18 mos: trucks
  - 2 yrs: locomotive, non-grid shore power
  - 3 yrs: truck stop electrification
  - 4 yrs: harbor craft, grid-based shore power

Program Funds for Administration

- State administration: 2% for bond issuance (non-ARB) and ~3% for Program (ARB)
- % of grant available for local administration:
  - 2% for grid-based shore power
  - 3% for locomotives, non-grid shore power, cargo cranes, truck stop electrification
  - 4% for harbor craft
  - 5% for truck retrofit/replacement
  - 0% for ports/agencies able to impose fees
- Overall ~8% of bond funds for administration

Equipment Projects

Summary of Eligible Projects for FY2007-08* Funding

- Replace, repower, retrofit heavy-duty truck
- Replace or repower freight locomotive
- Repower commercial harbor craft
- Install shore-side electrical infrastructure for cargo ship
- Retrofit crane with energy storage system
- Install electrical infrastructure at truck stop or distribution center

** To be updated with each appropriation to ARB*

Selecting Equipment Projects
Step 1: Competitive Ranking (example)

- Owners of trucks A, B, C apply for funding
- Owners/projects are screened for eligibility
  - CA registration, 50% operation in corridors
- Each truck is evaluated as a separate project
- Prioritization factors are determined:
  - ***Emission reduction factor*** = Reduction in NOx + (diesel PM x 20) in all corridors over project life
  - ***Cost-effectiveness and match factor*** = weighted emission reductions/total State $

Selecting Equipment Projects

Step 1: Competitive Ranking (example)

Emission Reduction Factor

B-10 tons Score: 3

A- 8 tons Score: 2

C- 5 tons Score: 1

Cost-Effectiveness and Match Factor

A-0.8 lbs/$ Score: 3

C-0.6 lbs/$ Score: 2

B-0.3 lbs/$ Score: 1

Competitive Ranking	
Project A: 2+3	5 points
Project B: 3+1	4 points
Project C: 1+2	3 points

Selecting Equipment Projects
Local Agency Process

- Agency posts list of competitively ranked projects on public website
- Agency requests/receives project funds from ARB *(as defined in the Guidelines)*
- Agency applies funds to top project and continues down the competitively ranked list until funds are exhausted
- Agency conducts pre-inspections and signs contracts with equipment owners

Example Prop 1B ARB Port Trucks

LA/Inland Empire Corridor	Central Valley Corridor	Bay Area Corridor	San Diego/ Border Corridor

Port Trucks

POLA + POLB

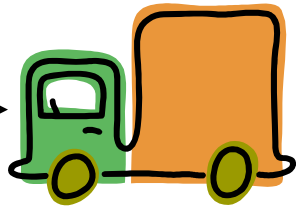
Replace

Containers to warehouse in Bakersfield

Forest products from the Sierras

Containers to intermodal rail yard in LA

Containers to distribution center in Mira Loma



Hay from Imperial Valley

Contact Information

- http://www.arb.ca.gov/gmbond
  - Sign up for listserve notices
  - Access to documents
- (916) 44-GOODS (444-6637)
- gmbond@arb.ca.gov
- Douglas Ito, Manager
  Goods Movement Strategies Section

SUPPLEMENTAL SLIDES

Detailed Project Specifications for FY 2007-08 Funds

Bottom Line on Adopted and Proposed ARB Truck Rules

- Drayage Trucks: If your truck is MY2003 or older, you'll need to (at least) install a PM filter by Dec 2009
- Drayage and Other On-Road Trucks: If your truck is MY2006 or older, you'll (also) need to replace it with a MY2007 truck by Dec 2013

Heavy-Duty Diesel Trucks
(over 33,000 lbs GVWR)

Option 1: Truck retrofit

- $5,000/truck for a Level 3 PM filter to retrofit MY2003 and older trucks
- Install filter at least 6 mos before required
- Commit to CA only registration/operation for 4 yrs or until upgrade is required
- Port/rail yard drayage trucks commit to stay in that service for 4 yrs (150+ visits/yr)
- Accept on-board monitoring device *if requested*

Heavy-Duty Diesel Trucks
(over 33,000 lbs GVWR)

Option 3: Truck replacement

- $50k/truck to replace MY2003 or older truck with diesel or alternative fuel truck meeting MY2007 emission levels
- CA only registration/operation for 8 yrs -- or 350,000 mi for port trucks, 500,000 mi for other
  - Alternative: $25k/truck with CA reg/operation for 4 yrs
- Scrap old truck and operate new truck at least 3 yrs before required
- Port/rail yard drayage trucks commit to stay in that service for 4 yrs (150+ visits/yr)
- Accept on-board monitoring device *if requested*

Heavy-Duty Diesel Trucks
(over 33,000 lbs GVWR)

Option 4: Three Way Truck Transaction

Truck A: MY2003-2006 diesel truck
Truck B: MY1990 or older diesel truck
Truck C: MY2007 diesel or alternative fuel truck

- $50k/truck to replace Truck A with Truck C
- Truck A: Retrofit with a Level 3 PM filter
- Truck B: Scrap and replace with retrofit Truck A
- Truck C: Operate at least 3 yrs before required, CA only registration & operation for 8 yrs/ 500,000 mi, accept monitoring device
- Truck A: CA only registration/operation for 4 yrs

Electric Infrastructure for Truck Stops

Option 1: Electric infrastructure at existing truck stop or distribution center

- Up to 50% of covered costs to install electric infrastructure and pedestals for trucks
- Quantify remaining emissions after compliance with ARB rules for trucks, idling, transport refrigeration units, and auxiliary power units
- Calculate extra emission reductions achievable with electrification infrastructure over 10 yrs
- Demonstrate that reductions per State dollar invested are better than truck replacement

Freight Locomotives

- Diesel locomotive with 2 yrs CA operation, 50% in corridor(s), >20,000 gal/yr fuel use

Option 1: Switcher

  - Lower of 50% or $750k/unit to replace or rebuild old switcher with new generator set (or equiv.)

Option 2: Helper

  - Lower of 50% or $875/unit to replace or rebuild old helper with new generator set (or equiv.)

Option 3: Line-haul

  - Lower of 50% or $1M/unit to replace old in-state line haul with new model meeting Tier 2+

All -- CA only operation for 15 yrs

Shore Power for Cargo Ships

- Install shore-side electrical infrastructure at least 2 yrs before required

Option 1: Grid-based power

  - Lower of $2.5M/berth or 50% for covered shore-side capital cost to bring power to berth, 20 yr life with specified % ship visits

Option 2: Distributed generation power

  - Lower of $210k/MW for covered capital costs of power systems with NOx controls, 7 yr life with annual operating hours, source testing
  - Alt. $150k/MW for 5 yr life

Diesel Cargo Handling Equipment at Ports and Intermodal Rail Yards

Option 1: Energy storage systems

- Existing rubber tired gantry crane with Tier 4 engine or Level 3 PM control
- Lower of 50% or $160k/crane to fund purchase and installation of energy storage system, with 20-yr contract
- Reductions cannot be applied toward rule compliance

Commercial Harbor Craft

Option 1: Engine repower

- Reconfigure vessel and replace old diesel propulsion engine with new model meeting latest emission standards
- For tugs and tows, lower of 50% or $135/hp with 15-year contract for CA operation; complete repower at least 2 yrs before required
- For pilot/work/crew/supply boats and high use commercial fishing vessels, lower of 80% or $215/hp with 10-year contract