

CALIFORNIA



SUSTAINABLE FREIGHT INITIATIVE



Update on Sustainable Freight Activities

January 21, 2016

California Environmental Protection Agency



Air Resources Board

Overview

- Pathways to Zero and Near-Zero Emissions
- California Sustainable Freight Action Plan



Freight Is Important to California's Economy

Freight-dependent industries account for:

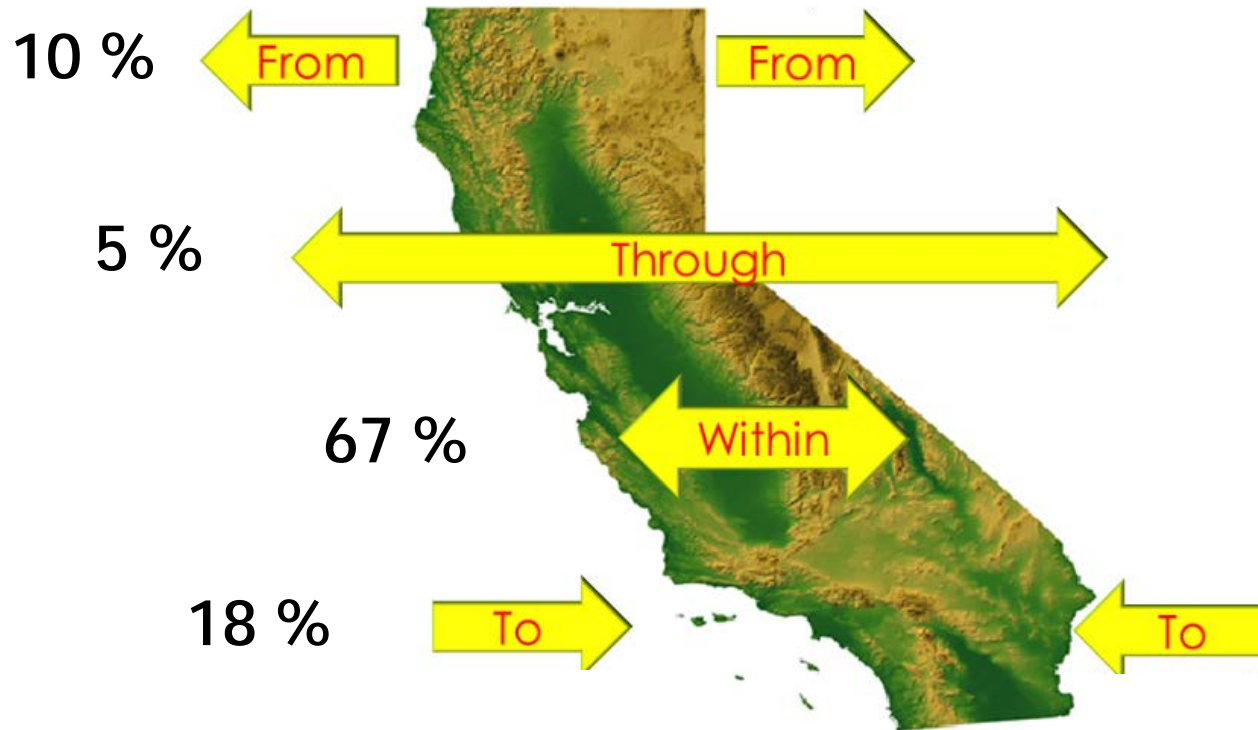
- Over \$700 billion, 32% of the California economy (2013)
- Over 5 million jobs, 33% of California jobs (2013)

California freight projections for 2025:

- 25% increase in volume
- 60% increase in commodity value

- Projections Source: Freight Analysis Framework Data by U.S. Department of Transportation, 2012

2/3 of Freight Transport *Within* California



- Source: Freight Analysis Framework Data by U.S. Department of Transportation, 2012

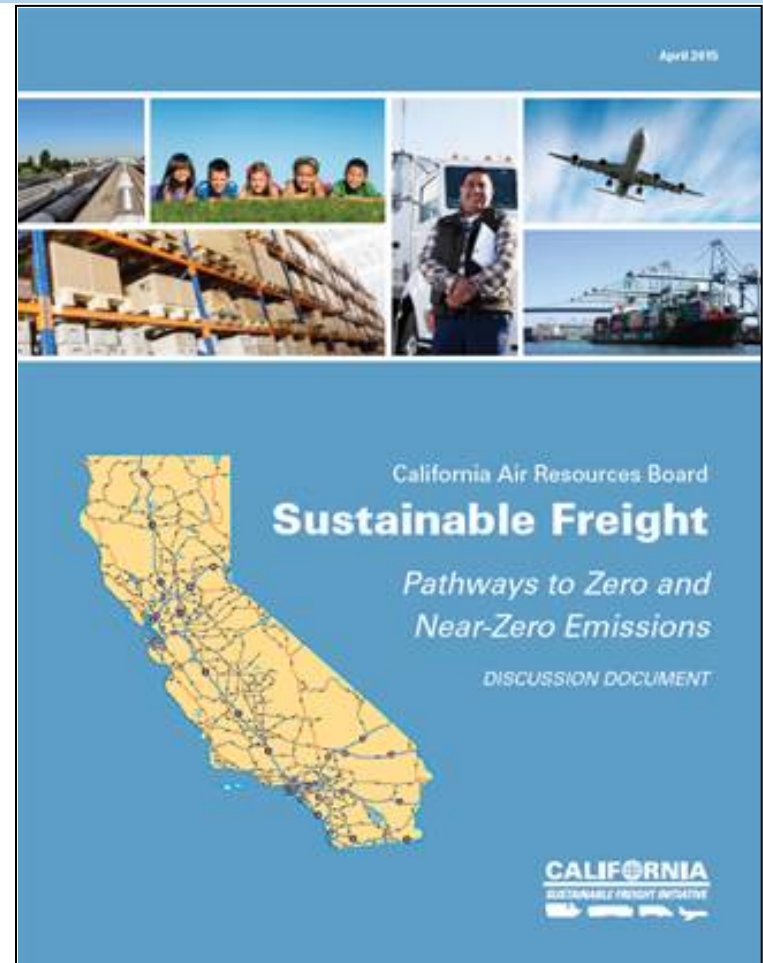
Air Quality Objective

Zero emission equipment everywhere feasible, and near-zero emission equipment powered by clean low-carbon renewable fuels everywhere else



Pathways to Zero and Near-Zero Emissions

- Immediate actions
- Near-term measures
- Vision for the future
- Broad-based approaches



Immediate Actions

Enforcement

- Presentation by program staff is next agenda item

Cleaner equipment funded in 2015

- 1,470 Total vehicles and equipment
- 10 Tons per year of PM emissions reduced
- 980 Tons per year of NOx emissions reduced

Progress on Development of Near-term Measures

- Truck Actions
- Ocean-Going Vessel Actions
- Locomotive Actions
- Zero Emission Technology Actions
- Data Collection for Freight Hubs

Cleaner Combustion: Trucks

- Expected Board consideration in 2016:
 - Opacity limits
 - Certification procedures for aftermarket diesel particulate filters
 - Increased manufacturer certification flexibility on innovative and advanced technology
- Expected Board consideration in 2017:
 - New certification and warranty requirements
 - Revised Warranty Information Reporting regulation

Cleaner Combustion: Trucks Continued

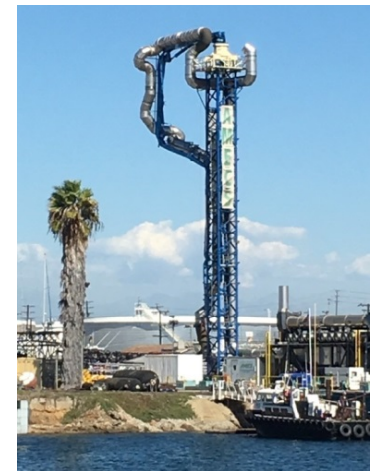
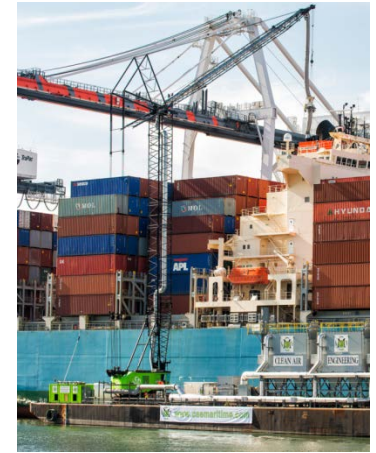
To pursue new emission standards:

- Commented on federal Phase 2
- May propose new, stringent CA Phase 2 greenhouse gas standards in 2016/2017
- Working with U.S. EPA to develop lower NOx standards



Cleaner Combustion: Ocean Going Vessels

- Two alternative control technologies approved for container vessels
- Evaluating expansion of At-berth regulation to capture additional vessels/reductions
- Discussion of marine controls is being added to our agenda with States and other countries



Cleaner Combustion: Locomotives

Preparing petition to U.S. EPA in 2016 on stricter standards on newly built and remanufactured engines

- New compact NOx control technology increases opportunity for upgrades upon remanufacture

Development of Zero Emission Technology

- Advocating for zero emission technology at new and expanded freight hubs
- Maximizing zero emission technology in pilot project concepts
- Zero Emission Demonstration Projects:
 - Zero-emission drayage trucks
 - Seaport
 - Approximately \$24 million available for each

Zero Emission

- Delivery Vans/Small Trucks: Deployment proposal expected to be workshopped in 2016
- Large Spark-Ignition Equipment:
 - Phase 1: Reporting and labeling
 - Phase 2: Increase deployment of zero emission
- Transport Refrigeration Units: Concept to phase out use of fossil-fuel TRUs for cold storage to begin workshops this Spring
- Airport Shuttles and Transit Buses

Data Collection for Freight Hubs

- Need to continue reducing health risk near freight hubs
- Freight sector vs. freight facility
- Will inform which additional strategies are pursued, including efficiency improvements, amendments to source-specific rules, facility emissions cap, etc.
- Expected industry outreach and survey release in Spring 2016

Integrated State Planning Effort



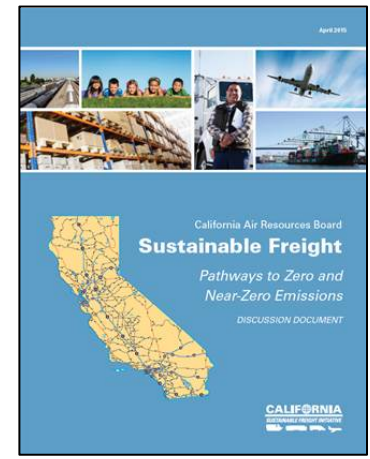
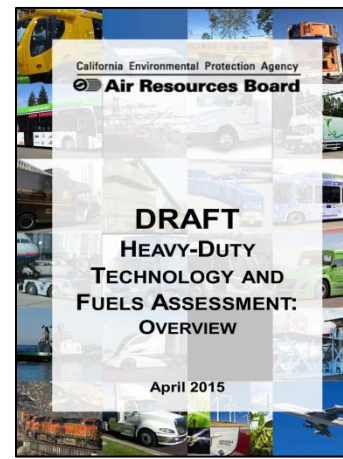
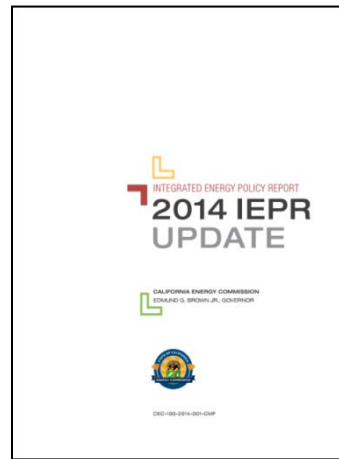
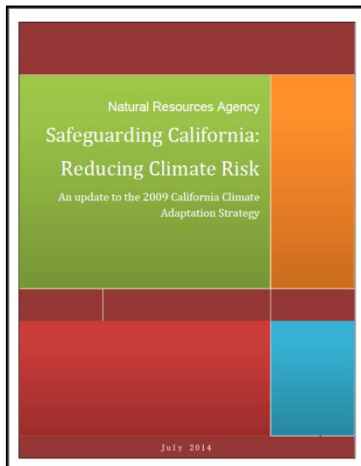
Governor's Executive Order B-32-15: California Sustainable Freight Action Plan

State agencies, in consultation with stakeholders, to develop plan by July 2016:

- Targets for efficiency, zero emission technology, and economics
- Potential actions to advance State objectives
- Corridor-level freight pilot projects

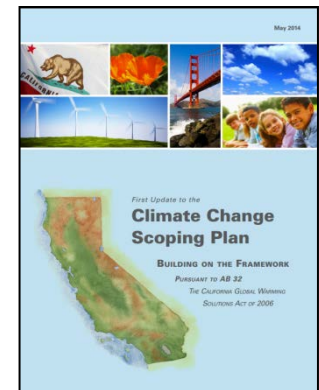


Foundation for Action Plan



Relation to Other Planning Efforts

- State Implementation Plans
- 2030 Target Scoping Plan Update
- Short-Lived Climate Pollutant Reduction Strategy
- California Transportation Plan



Framework of Action Plan

- A long-term **vision** for California's future freight transport system
- **Guiding principles** to achieve the vision and prioritize projects for funding
- **2030 targets** to guide State progress
- **Agency actions** to help meet the 2030 targets
- Corridor-level **pilot projects** to demonstrate an integrated approach across agencies

Draft 2050 Vision

Freight in California is moved on a modern, integrated, and resilient system that continues to support California's economy and livability. It is transported safely and efficiently by zero emission equipment everywhere feasible, and near-zero emission equipment powered by clean low-carbon renewable fuels everywhere else.



Draft Freight Targets for 2030

- Improve freight system efficiency by 25% by 2030
- Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030
- Minimize negative economic impacts to the freight industry as the efficiency of the freight transport system improves.

Possible Actions to Support 2030 Freight Targets

Action concepts the agencies are considering over the next five years:

- Advanced Technologies
- Freight and Fuel Infrastructure
- Alternative and Renewable Fuels
- System Efficiency
- Freight Facilities and Hubs

Freight Efficiency “Think Tank”



- Convened by Caltrans
- Chaired by Dr. Sperling
- Participants: freight industry, academics, advocates, government
- Task: Examine and identify broad-based efficiency strategies to incorporate into the California Sustainable Freight Action Plan

Freight Pilot Project Objectives

- Measureable progress towards freight targets within a 2030 timeframe
- System transformation potential
- Opportunity for integrated State agency support
- Scalability

Potential Freight Pilot Projects (for discussion at workshops)

- Food Consolidation and Distribution Hub(N. CA)
- Urban Delivery (Bay Area)
- Dairy Biogas for Freight Vehicles (SJ Valley)
- Advanced Technology Truck Only Lane(S. CA)
- Advanced Technology Truck Fast Lane(Border)

Action Plan Timeline

July 2015	Launch
Ongoing	Freight Advisory Committee Meetings
Ongoing	Efficiency Group Meetings
Oct. 2015	Public Webinar
January 25, 2016	Assembly Transportation Hearing
Jan./Feb. 2016	Public Workshops (9 locations)
Spring 2016	Draft Plan Release
May 2016	Informational Update to Board and others
July 2016	Final Plan Release

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