

Public Workshops to Discuss Proposed Short-Lived Climate Pollutant Reduction Strategy

Sacramento: April 26, 2016

Bakersfield: May 3, 2016 (1:30 p.m.)

May 3, 2016 (6:00 p.m.)

California Environmental Protection Agency

 **Air Resources Board**

Today's Presentation

- Discuss components of Proposed Short-Lived Climate Pollutant (SLCP) Reduction Strategy
- Comments from EJAC members
- Comments from audience
- Email address for sending comments during workshop:
Sacramento: auditorium@calepa.ca.gov
Bakersfield: webcast@valleyair.org
- Next Steps for SLCP Reduction Strategy

Development of the SLCP Strategy

- Recommended action in the 2014 Scoping Plan Update
- Required by Senate Bill 605
- One of Governor's "pillars" to meet 2030 GHG emissions goal of 40 percent below 1990 levels
- Concept Paper released in May 2015
- Draft Strategy released in September 2015
- Proposed Strategy released on April 11, 2016

California Already a Leader in Reducing SLCP Emissions

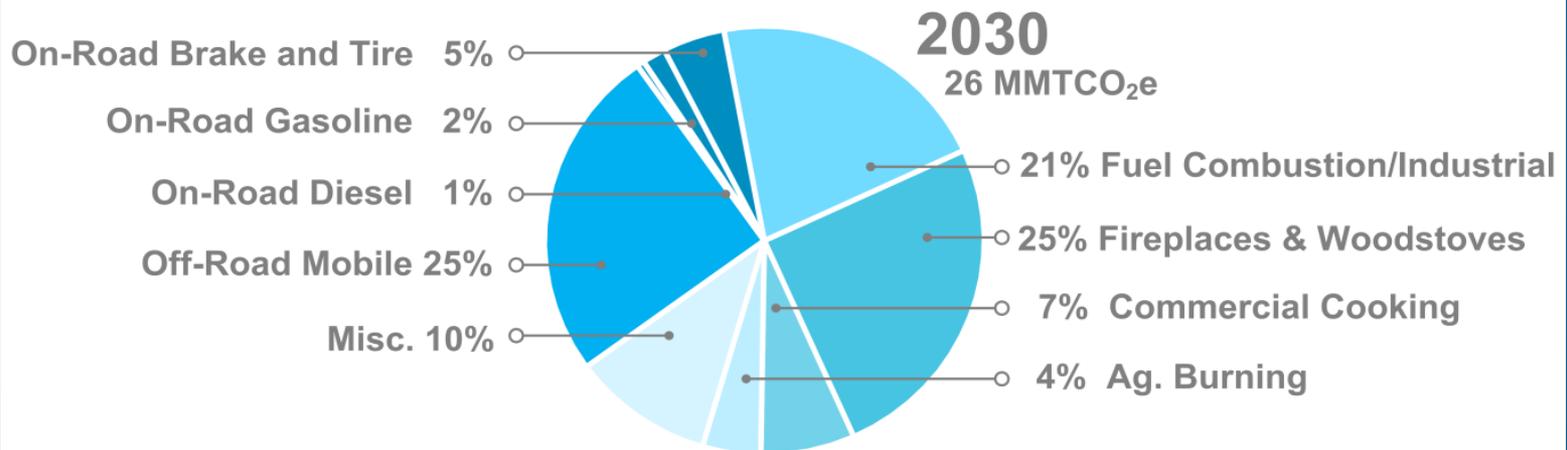
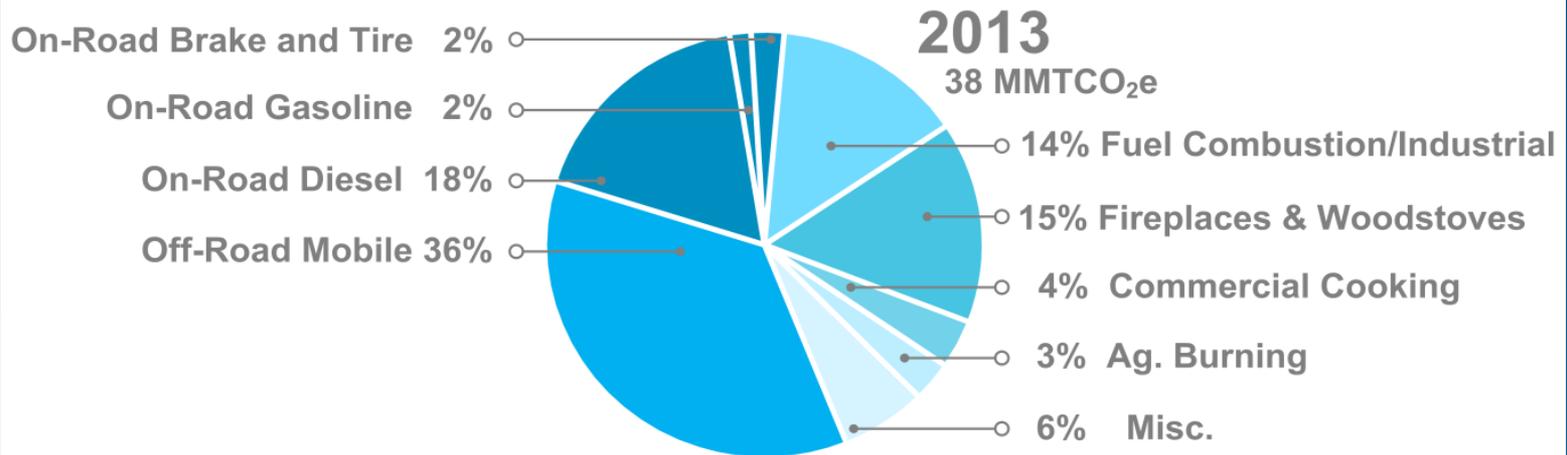
- Black carbon emissions from anthropogenic sources are 90% lower than in the 1960s, and will be cut in half again by 2020
- Methane emissions are regulated at landfills; Cap-and-Trade offset protocols encouraging reduction of methane emissions; and methane leaks will be reduced from oil and gas rules under development
- HFC emissions are being reduced from refrigerants, motor vehicle air-conditioning, and consumer products that together will cut these emissions by 25 percent in 2020

Proposed SLCP Emission Targets

Proposed Target Emission Levels (MMTCO₂e)

Pollutant	Inventory	Forecast	Targets	Percent Reduction from 2013 Levels
	2013	2030	2030	
Black Carbon (Non-forest)	38	26	19	50%
Methane	118	117	71	40%
HFCs	40	65	24	40%

Black Carbon Emissions

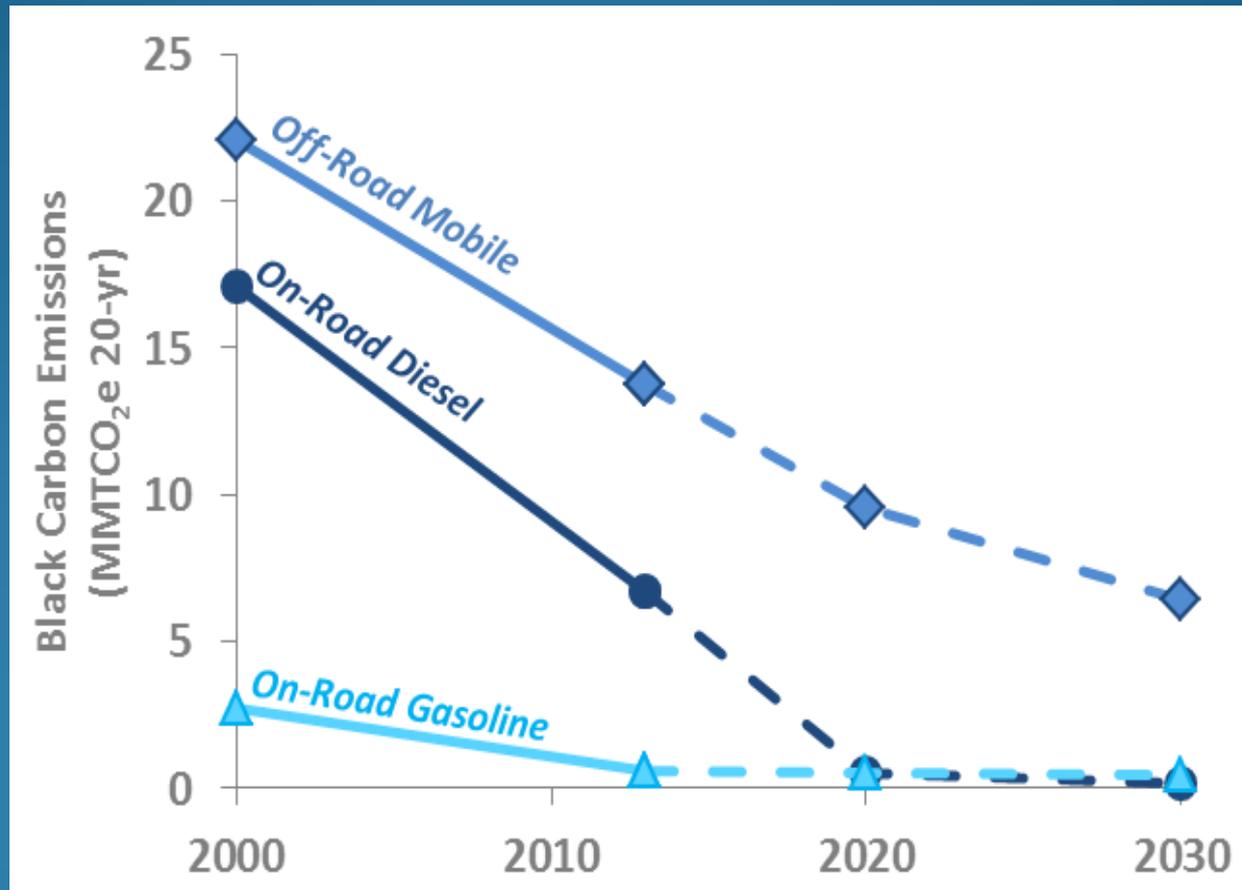


Existing Black Carbon Reduction Programs

Achievements from both ARB and air district programs

- Prescribed, agricultural, and residential burning; and charbroiling rules
- In-Use fleet rules
- Off-Road engine standards
- Clean fuel rules
- Ship engine and fuel standards
- Incentive programs

Mobile Sources Black Carbon Emissions



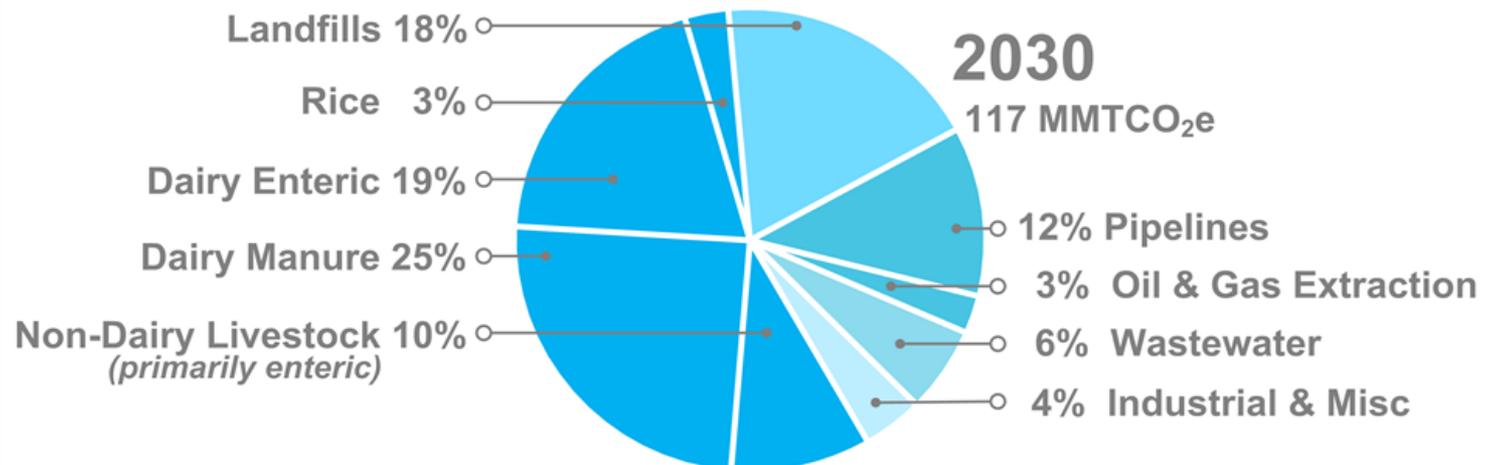
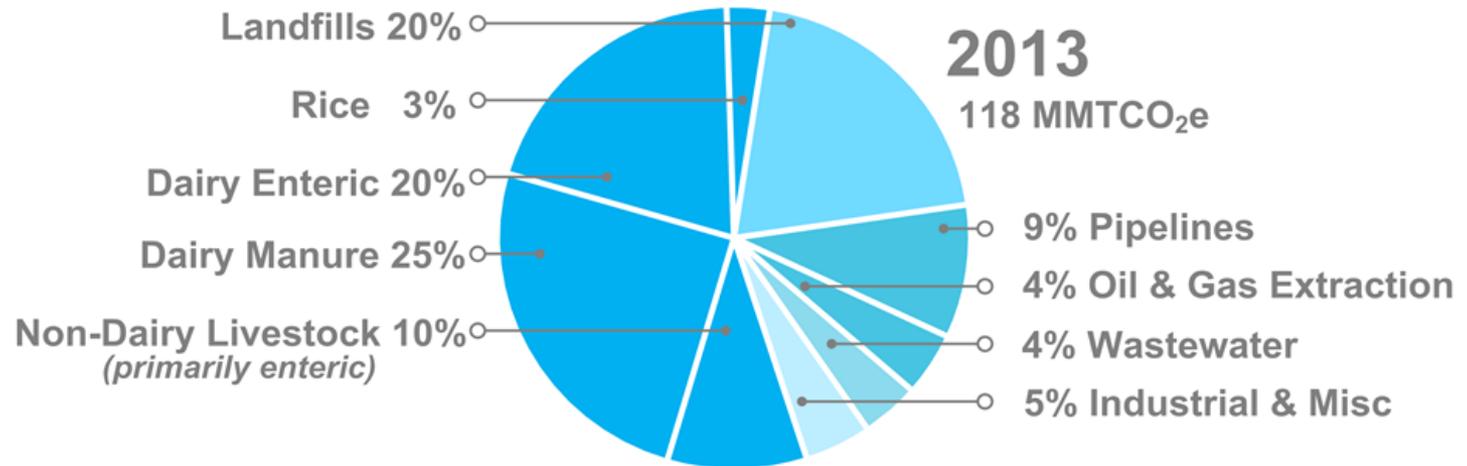
Proposed Black Carbon Measures to Meet 50 Percent Reduction Target

Measure Name	2030 Annual Emission Reductions	2030 Annual Emissions
2030 BAU		26
Residential Fireplace and Woodstove Conversion	3	
California Sustainable Freight Action Plan State Implementation Plans Clean Energy Goals	4	
2030 BAU with new measures		19

Recommended Actions for Forest-Related Sources of Black Carbon Emissions

- Increase rate of fuel reduction to improve forest health and reduce wildfire risk
- Support market development for beneficial uses of woody waste
- SLCP Strategy part of integrated planning with 2030 Target Scoping Plan Update and State's Forest Carbon Plan currently under development

Methane Emissions



Proposed Methane Measures to Meet 40 Percent Reduction Target

Measure Name	2030 Annual Emission Reductions	2030 Annual Emissions
2030 BAU		117
Dairy Manure	21	
Dairy and Livestock Enteric Fermentation	5	
Landfill	5	
Wastewater, Industrial and Other Miscellaneous Sources	7	
Oil and Gas Sector	8	
2030 BAU with new measures		71

Proposed Methane Emission Reduction Measures

Dairies

- Reduction targets for manure methane emissions at dairies (20 percent in 2020, 50 percent in 2025, and 75 percent in 2030)
 - Targets would result in a more than 40% reduction in methane emissions from entire dairy sector by 2030
- ARB, in coordination with CDFA and local air and water quality agencies, to begin regulatory process in 2017 to reduce manure methane emissions at dairies
- State to support research and monitor progress on reducing enteric emissions by 25 percent

Proposed Methane Emission Reduction Measures (cont.)

Landfills

- ARB and CalRecycle to develop a regulation by 2018 to virtually eliminate organic disposal in landfills by 2025
 - Include food waste prevention and rescue programs with a target of 10 percent food waste reduction by 2020 and 20 percent by 2025

Wastewater Treatment Plants

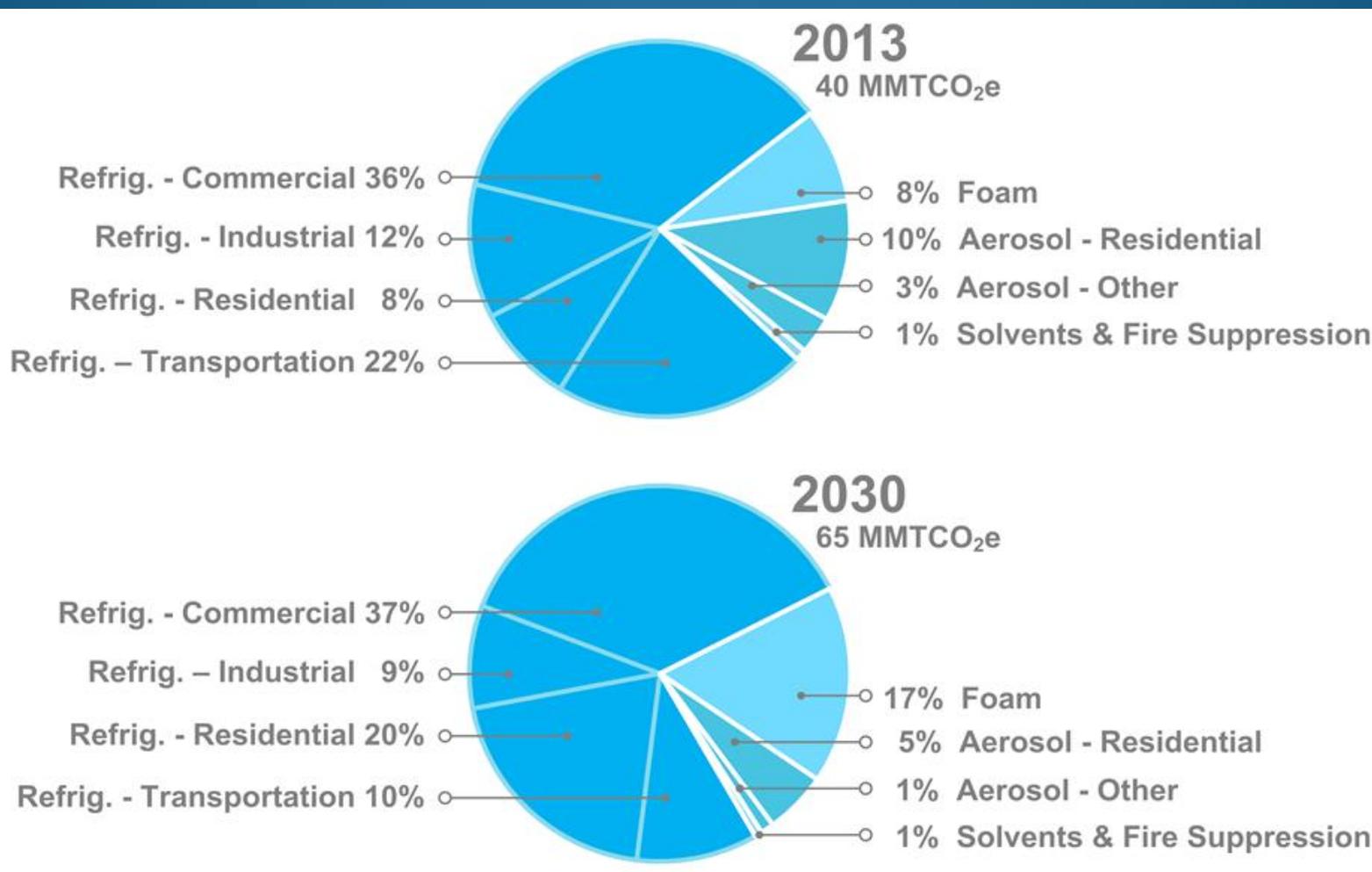
- ARB and other agencies to assess actions to require capturing and utilizing methane
- Develop regional opportunities to co-digest waste at existing and new digester facilities

Proposed Methane Emission Reduction Measures (cont.)

Oil and Gas

- ARB developing a regulation by 2016 to reduce fugitive methane emissions from oil and gas production, processing, and storage
- CPUC to complete rulemaking by 2017, pursuant to Senate Bill 1371, to minimize methane leaks from natural gas pipeline system

HFC Emissions



Proposed HFC Measures to Meet 40 Percent Reduction Target

Measure Name	2030 Annual Emission Reductions	2030 Annual Emissions
2030 BAU		65
Financial Incentive for Low-GWP Refrigeration Early Adoption	2	
HFC Supply Phasedown	19	
Sales ban of very-high GWP refrigerants	5	
Prohibition on new equipment with high-GWP Refrigerants	15	
2030 BAU with new measures		24

Economic Analysis

- Analysis Includes:
 - Direct economic costs associated with new technologies and management strategies
 - Direct economic benefits including efficiency cost savings and revenue from marketable products
- Implementing the five major measures would collectively require several billion dollars of investment in clean technologies and strategies
- SLCP measures will be included in the macroeconomic analysis of 2030 Target Scoping Plan Update

Environmental Analysis

- Draft Environmental Analysis (EA) completed
 - Potentially significant impacts found for some resource areas
- Released for 45-Day public comment period
 - April 11, 2016 – May 26, 2016
- ARB will prepare written responses to relevant comments received on Draft EA

Next Steps

May 3, 2016	Bakersfield SLCP workshops
May 19, 2016	Present Proposed Strategy to Board
May 26, 2016	Comment period ends for draft EA and Proposed Strategy. Send comments to: http://www.arb.ca.gov/lispub/comm/bclist.php
Late summer or early fall 2016	Present final Strategy and responses to EA comments to Board for approval

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SLCP Website:

<http://www.arb.ca.gov/cc/shortlived/shortlived.htm>