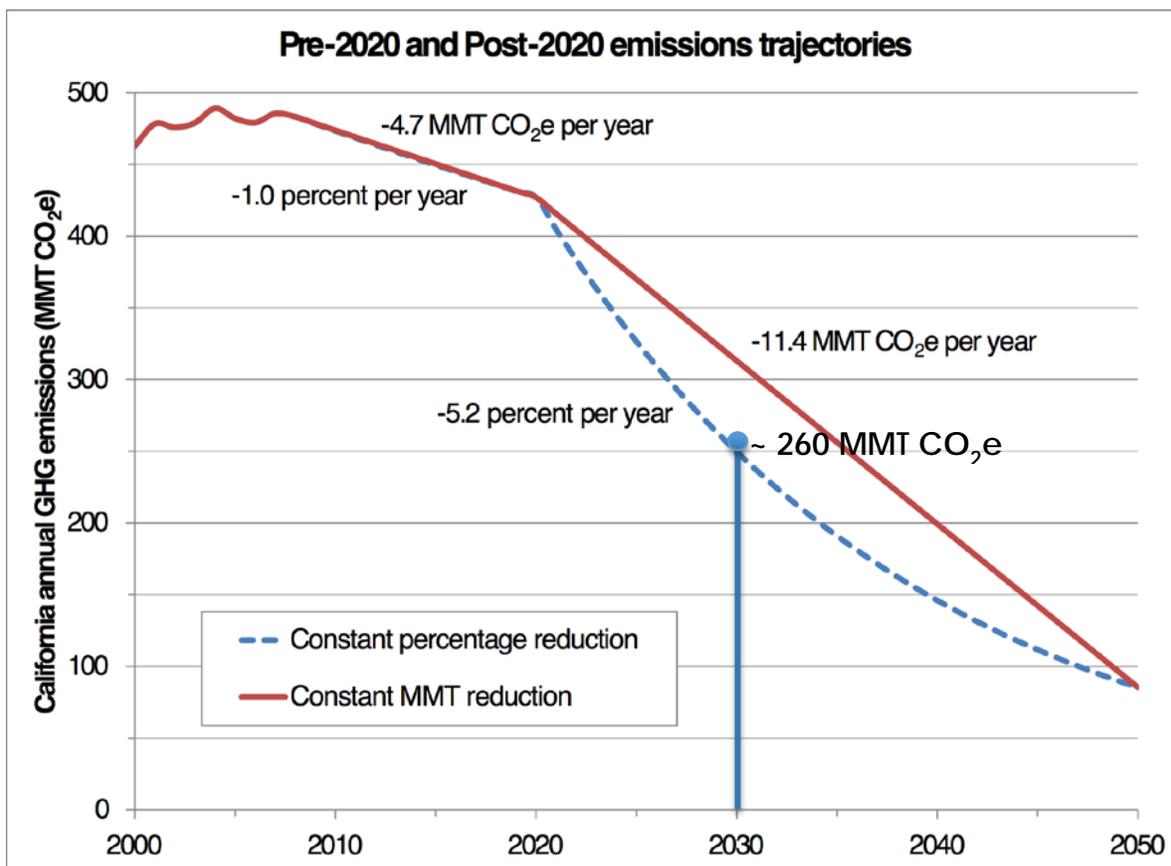


Framing the Path to 2050



California’s Proposed Approach for 2030 GHG Target

- Emissions based on ARB’s GHG emissions inventory
- 2020 Goal: Approximately 431 million metric tons of CO₂ equivalent
- From 2020 to 2050, 2 different lines projecting towards State’s 2050 goal
 - 2050 Goal: 80% reduction in emissions below 1990 levels by 2050
- Straight red line represents linear pathway to achieving the 2050 target
- Dashed blue line shows a constant percentage reduction in emissions
- In 2030, blue dashed line almost intersects with blue dot, which is approximately 260 million metric tons of CO₂ equivalent. This represents the 2030 target
- From Governor’s April 29, 2015 Executive Order release “40 percent below 1990 levels by 2030...is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius - the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels.”
- From graph, achieving this 2030 goal is most consistent with a constant percentage reduction path as opposed to a linear emission reduction pathway
- The rate of decline from 2020 to 2030 almost doubles from what the rate of decline is today to achieve the 2020 target
- This also gives us an indication of the challenge in the 2030 Target Scoping Plan to develop emission reduction measures that can achieve the 2030 goal while ensuring the State is on the path to achieving the 2050 target

2030 Target Scoping Plan – Economic Modeling Overview

Goal

- Evaluate the economic impact of options for achieving the 2030 GHG target
 - Estimate economic impact of various technology pathways & carbon pricing
 - Inform measure development
 - Assess economic impact of options for achieving the 2030 GHG emission target on the California economy, California businesses, and individuals

Relationship to Other Analyses

- Economic Analysis
- Public Health Analysis
- California Environmental Quality Act (CEQA) Analysis
- Individual Regulatory Analyses

Modeling Tools

- California PATHWAYS
- Regional Economic Models, Inc, REMI PI+

Sources of Assumptions and Data

- Existing Materials
- Examples:
 - CEC Integrated Energy Policy Report (IEPR)
 - ARB Mobile Source Strategy
 - EMFAC 2014
 - ARB Vision Model
 - CPUC Long Term Procurement Plan (LTPP)
 - CPUC Navigant Potential Study, 2013
 - CPUC RPS Calculator, updated 2014
 - DWR California Water Plan: Update 2013
 - ARB Short-Lived Climate Pollutant Reduction Strategy
 - ARB California GHG Emissions Inventory
 - ARB Mandatory GHG Emissions Reporting
 - Department of Finance Economic and Demographic Forecasts
 - Department of Energy Billion Tons Study Update, 2011

Sources of Assumptions and Data continued

- California PATHWAYS Model Materials
 - Energy Principals’ Study
 - Presentation at the UC Davis Forum: <http://policyinstitute.ucdavis.edu/initiatives/ccpm/ccpm-dialogue-final-agenda/>
 - Model Framework and Methods, posted for today’s meeting
 - PATHWAYS Model and User Guide, posted for today’s meeting
 - Additional material posted on the E3 website: https://ethree.com/public_projects/energy_principals_study.php

2030 Target Scoping Plan – Reference Scenario

Overview

- Existing policies and programs that inform greenhouse gas (GHG) and economic analysis
- Policies that are currently being implemented
- Used to evaluate GHG emissions through 2030 in the absence of new action

Reference Scenario Policies Energy and Energy Efficiency

Policy	PATHWAYS	IEPR	Vision	REMI
Renewables Portfolio Standard (RPS)	X			
Customer Side Solar Programs	X	X		
Cap-and-Trade		X		X
California Building EE Standards	X	X		
California Appliance Efficiency Regs.	X	X		
Utility EE Programs	X	X		
Green State Buildings Executive Order		X		
California Green Building Standards		X		

**Reference Scenario Policies
Transportation**

Policy	PATHWAYS	IEPR	Vision	REMI
Light-Duty Vehicles: AB1493 Clean Car Standards, Advanced Clean Cars (ACC), Zero Emission Vehicles (ZEV) Action Plan	X		X	
Heavy-Duty Vehicles: Phase 1 Heavy-Duty GHG, Truck and Bus Rule, Drayage Regulation, Tractor-Trailer Regulation	X		X	
Maritime: Ocean-going Vessels Reg., Commercial Harbor Craft Reg.			X	
High Speed Rail	X		X	
SB99 Active Transport	X		X	
SB375 Sustainable Communities	X		X	
Low Carbon Fuel Standard (LCFS)	X		X	

Next Steps

- Consideration of additional policies will include:
 - Existing modeling initiatives (i.e., LTPP, IEPR, Vision)
- Feasibility to forecast changes in technology deployment or cost, or energy demand
- Modeling and analysis will continue in 2016
- Collaboration with sister agencies to ensure comprehensive policy modeling without double counting