

Driving California Forward

A Report on Public Health & Societal Economic Benefits California's AB 32 Transportation Fuel Policies LCFS & CAP AND TRADE

By transitioning the state's transportation system to cleaner fuels and a more diverse vehicle fleet the **LCFS and C&T will result in cumulative savings of : \$10.4 billion by 2020 & \$23.1 billion by 2025.**

California is home to over 30 million vehicles which consume 16 to 20 billion gallons of gasoline and diesel every year. In addition to the significant costs paid by consumers at the pump, reliance on conventional vehicles and fossil fuels also carries the high costs of air pollution, climate change, and energy insecurity. The total costs of the system are almost \$25 billion / year.



Public Health
Californians suffer from missed work days, exacerbated asthma attacks, respiratory & cardiac hospitalizations and premature mortality due to air pollution (PM_{2.5}, SO_x, NO_x). Cleaner fuels mean less pollution and healthier communities throughout California.

Predicted Savings:
\$8.3 billion by 2025



Climate Change
The current vehicle fleet contributes nearly 40% of California's climate change pollution, which affects Central Valley farmers to coastal communities alike. Lowering climate pollution helps protect California's cities, industries, and natural resources.

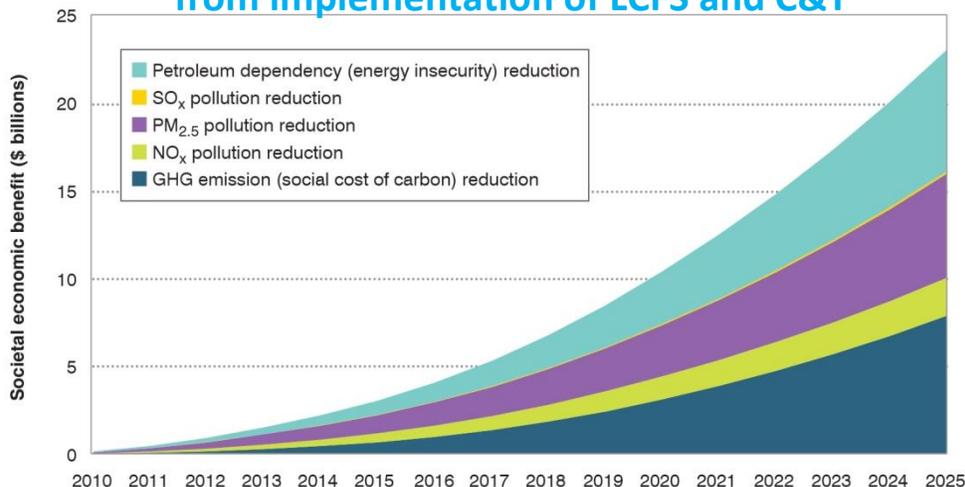
Predicted Savings:
\$7.9 Billion by 2025



Energy Security
Dependence on conventional fuels, over half of which are imported, results in energy insecurity, making the economy vulnerable to fluctuations in oil prices and import volume availability. Investing in domestic fuels protects consumers at the pump.

Predicted Savings:
\$6.9 Billion by 2025

Cumulative societal economic benefits from implementation of LCFS and C&T



Finding the ways that work



Modeling the future of California's transportation system

The health and economic benefits associated with the transformation of the statewide fuel mix used were calculated through the development of a clean fuel deployment scenario under LCFS and C&T. The scenario was directly compared to a theoretical fleet that would exist without these policies. The scenario model was run for the years 2010 to 2025.

Low Carbon Fuel Standard (LCFS)

LCFS is a market based regulation directly applied to the transportation fuel mix, which requires a phased reduction in the carbon intensity of transportation fuels in the state, leading to a 10% reduction by 2020. The LCFS promotes cleaner fuels that include biofuels, ethanol, hydrogen, electricity, and renewable diesel.

Cap-and-Trade (C&T)

The C&T program is the critical backstop of the pollution-reducing policies developed under AB 32, and has set a cap on emissions from polluting sectors of the economy. Starting in 2015, pollution from combustion of transportation fuels from tailpipe emissions will be included under the cap, thus creating a new market signal for investments in lower emitting, less carbon intensive fuels.

No-regulation Scenario:

- Based on projections from the California Energy Commission (CEC) and using EMFAC 2011 and GREET to model the vehicle fleet and emissions through 2025 in the absence of LCFS and C&T.
- Incorporates existing transportation policies in California, including fuel economy standards and emissions standards.

Deployment Scenario with LCFS and C&T:

- The fuel penetration scenario assumes achievable levels of natural gas, biofuels, hydrogen vehicle and zero emissions vehicle penetration as included in publically accessible sources.
- Once the fleet characteristics of the scenario were determined, the same emissions factors were used as in the no-regulation scenario to determine fuel use, climate pollution, criteria pollutant quantities, and associated health impacts for the scenario.

Health Benefits of LCFS and C&T

<i>Impacts Avoided</i>	<i>Benefit (2010-2025)</i>
<i>Premature deaths</i>	- 882
<i>Asthma attacks</i>	- 38,321
<i>Heart attacks</i>	- 597
<i>Lost work days</i>	- 74,339
<i>Hospitalizations</i>	- 643

Gasoline and Diesel Consumption Benefits of LCFS and C&T

