
# Fill it Up Clean, New Jersey!

## Principles of the clean fuel standard

**TECHNOLOGY NEUTRAL** – all fuels compete to provide the lowest carbon emission fuel and use science-based measurements.

**FLEXIBLE** – producers and importers of transportation fuels may use different options to reduce carbon emissions such as utilizing renewable fuels or choosing to purchase credits.

**PROVEN** – Clean fuel regulations exist in Washington, Oregon, California, and all of Canada. Today, 14 other states are considering implementing clean fuel standards due to its efficacy.

The clean fuel standard is **NOT** a mandate – rather, an incentive to lower the emissions of all transportation fuels.

# Clean Fuel Standard

### FAQ / FACT SHEET

## Cleaner air, water, and a healthier climate for New Jersey

A Clean Fuel Standard (CFS), will reduce air and water pollution by transitioning the transportation system from fossil fuels to clean fuels. This program requires all transportation fuel producers of gasoline, electricity, and diesel to reduce the carbon pollution in their products by setting a "standard" that requires producers and distributers in New Jersey to lower the carbon intensity of their fuels each year until it reaches zero.

Researchers have concluded that clean fuel regulations have been very effective at reducing the use of fossil fuels and directly improving air quality, while driving the adoption of electric vehicles and charging infrastructure, renewable diesel, and other renewable and low carbon alternatives including hydrogen and sustainable aviation fuels.

Sources: www.researchgate.net/publication/327707588_Does_California's_Low_Carbon_Fuel_Standards_reduce_carbon_dioxide_emission • escholarship.org/uc/item/080390x8 • escholarship.org/uc/item/0ct4m7gs

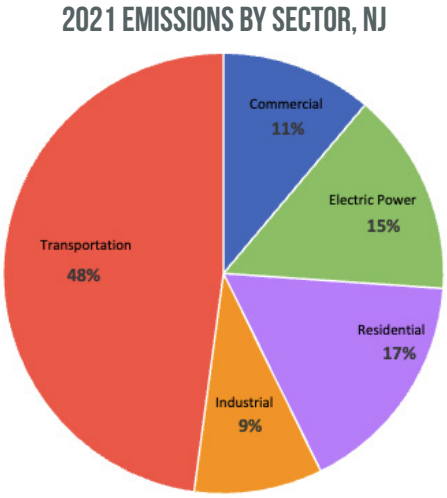
A CFS uses a science based "carbon intensity" to measure the life cycle greenhouse gas emissions.

## How does it work?

CFS works by setting a carbon intensity (CI) standard for motor vehicle fuels like gasoline and diesel. The standard would require a 1% per year reduction in the carbon intensity of transportation fuels. Fuel producers have multiple options to meet or exceed the standard.

- They may purchase renewable fuels and blend them into their products.
- They may make their refining process more efficient.
- They may produce renewable fuels.
- They may purchase credits from producers of fuels with a CI lower than the set standard if they do not wish to make changes in their production.

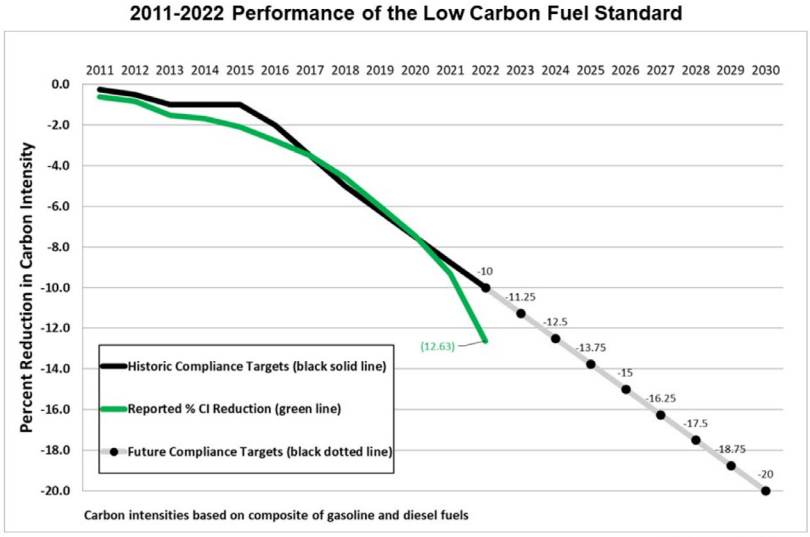
# Why do we need a clean fuel standard? – Clean air and a healthier climate




Transportation emissions accounted for almost half of all $CO_2$ emissions in New Jersey in 2021, over 10% higher than the national average. Diesel and gasoline are some of the largest sources of emissions and have been found to be correlated with asthma, lung cancer, and other respiratory diseases. Overburdened and low-income communities are more likely to live in areas with higher exposure to transportation particulate matter and are likely to be more impacted by these emissions. Those in Hudson, Bergan, and Essex County have 10% higher cancer risk than the national average due to proximity and exposure to criteria pollutants POH/POM from Newark Airport and the NJ Turnpike, according to the EPA.
Source: NJDEP| Air Toxics | 2017 Risk Results For NJ

However, we currently do not have any choice beyond gasoline and diesel. A clean fuel standard will break the hold on consumer choice by introducing renewable fuels like renewable diesel to replace fossil diesel or sustainable aviation fuels (SAF) to replace jet fuel. In fact over 99% of all renewable diesel is sold into states with clean fuel programs. Source: https://afdc.energy.gov/data

## Clean fuels are made from waste materials that normally are landfilled or from special crops designed to grow a sustainable energy source.




Source: ww2.arb.ca.gov/resources/documents/lcfs-data-dashboard

A clean fuel is determined by the Carbon Intensity of the process and feedstock it is developed from. Clean fuels are made of sustainable materials such as slash, forest waste, used cooking oil, grease, farm waste, and garbage. These fuels can also be made from vegetable oils and other carbon sources that are readily available to convert into clean fuels.

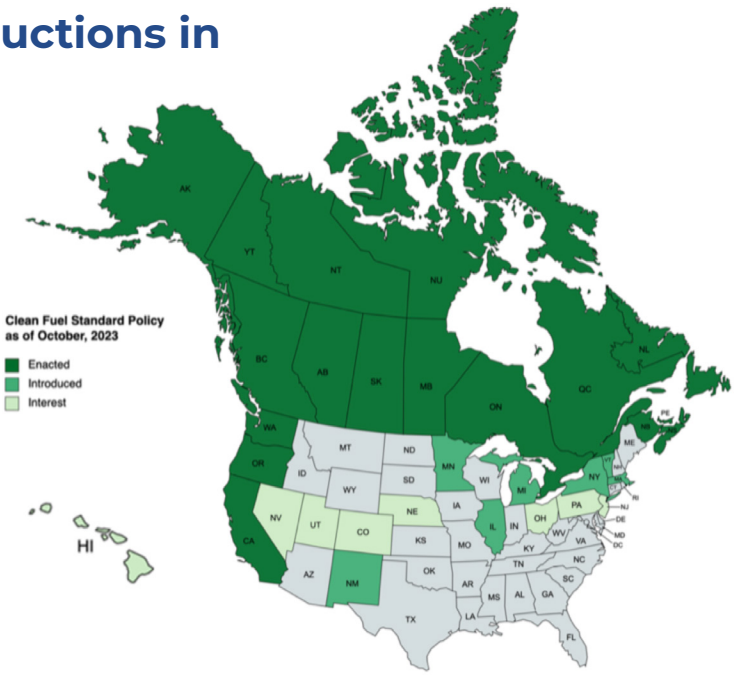
You may not realize it, but today individuals already use a type of clean fuel. Federal law requires that all gasoline contain 10% ethanol. This blend makes fuel less carbon intense than 100% fossil fuel.

Electricity can also be a clean transportation fuel when it is produced from renewable sources like wind, solar or hydroelectric. As EV use increases, a small but rapidly growing segment of the light-duty vehicle market will use low-carbon electricity to fuel vehicles over the next decade. Cleaner fuel programs are also technology neutral and include electricity, renewable diesel, biodiesel, hydrogen, ethanol, renewable natural gas, sustainable aviation fuel, and fuels of the future.



# Clean Fuels Standard: Proven reductions in transportation emissions

A CFS is a proven policy that lowers carbon emissions and is critical to reaching 2050 net zero goals. In the past 12 years, **77% of all carbon reductions in California have been credited to the low carbon fuel standard.** The California clean fuel program has been in place for over a decade and the data demonstrates the substantial difference low carbon fuels are making.



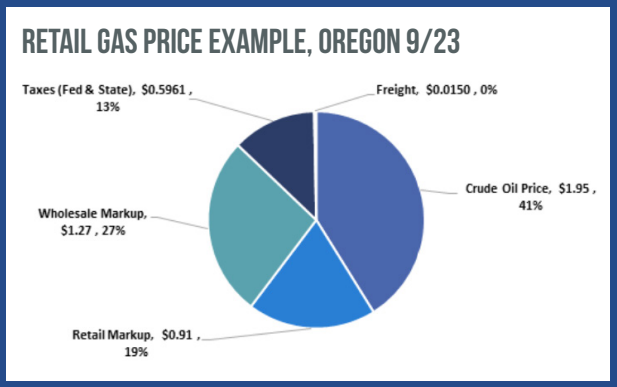

- Today 60% of all diesel used in transportation in California is renewable. Most of the renewable diesel sold is up to 80% less carbon intense than petroleum diesel.
- From 2015-2022, California saw displacement of 77.4B lbs. $C0_2$ due to the clean fuel standard.
- Carbon intensity of the diesel pool has reduced almost 50% from 2011 – 2023.
- Fact: Rather than choosing between gasoline and diesel, California residents now benefit from the choice between electricity, renewable diesel, biodiesel, RNG, and cleaner fuels as they come to market.
- CA estimates 7.3M full time equivalent job-years of employment from 2020-2045 through the ZEV transition.

## Does a Clean Fuel Standard Raise Gas Prices?

**No.** There is no correlation between the clean fuel standard and the cost of gas. Due to the market competition that the clean fuel standard creates, it has been repeatedly found that the program will not add to the price of gas more than $0.01/yr.

### What goes into the price of gas?

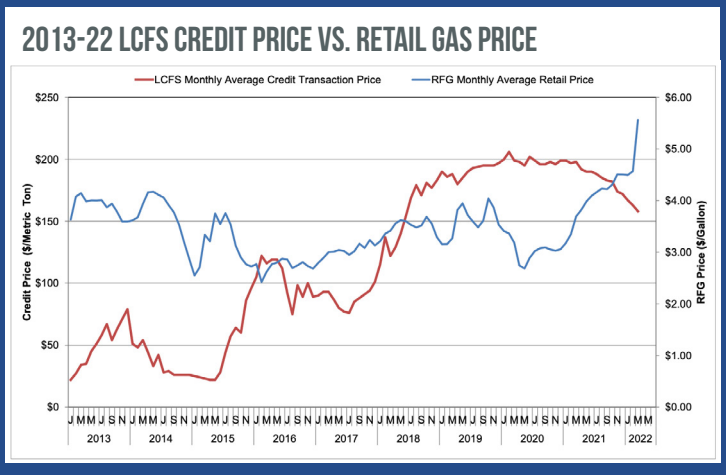
Real time data is showing that a clean fuel program does not have an impact on gas prices at the pump. The gas prices in Oregon, at a glance:




Sources: doi.org/10.2139/SSRN.2174817 • www.bateswhite.com/media/publication/226_BW%20LCF%20Report%20-%20April%202022.pdf • ecology.wa.gov/blog/july-2022/independent-studies-show-new-climate-change-initia

Prices at the pump are primarily determined by the cost of crude oil, federal and state taxes, and wholesale and retail mark up. In clean fuel markets, renewable fuels are found to sell for less than their petroleum counterparts.

The graph below demonstrates the clean fuel credit price as well as retail gas price, indicating no correlation between the two.



## What is the Economic Impact of a Clean Fuel Standard & How Does it Affect the Quality of Life of Citizens?

Since the deployment of the CFS in California the **GDP has risen 32.3% while total emissions have been cut by 5.1%**. In both CA and OR, unemployment rates have dramatically reduced, from 12.4% and 10.3% to 3.9% and 3.8%, respectively. Individuals have more choice at the gas pump, cleaner air, and clean energy jobs.

In California, a study on their clean fuel standard identified **$2.5B in annual avoided public health costs, expected to grow to $8.3B by 2025** from fewer asthma attacks and hospitalizations, lower rates of lung cancer and heart attacks, and fewer lost workdays. Source: doi.org/10.1371/journal.pone.0203167

### THE CALIFORNIA PROGRAM DATA SHOWS:

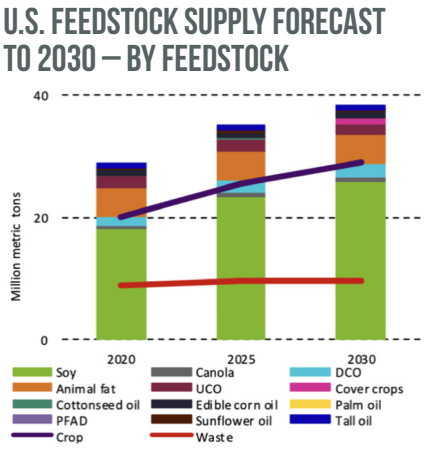
- Over the past 12 years, 77% of all carbon reductions have been credited to the low carbon fuel standard
- 27.2 billion gallons of petroleum fuels have been displaced
- GDP of transportation grew by 94.5% during the same time that transportation emissions were cut by 5.1%
- GDP in California has risen 32.3% since the clean fuels program was established
- Renewable diesel sells for $0.16 - $0.21 cents less per gallon
- 60% of all diesel sold is renewable
- 40+ airports in CA have Sustainable Aviation Fuel available

## What is the impact on overburdened communities?

Clean fuel standard programs are developed with overburdened communities as a priority. In Washington State, the program requires 40% of electricity credits to be reinvested back into disadvantaged communities to fund the EV transition, and the Department of Ecology is required to do air quality studies to ensure the program is working in overburdened communities as intended. In Oregon and California, overburdened communities are found to experience lower levels of asthma, COPD, and cancer than counterparts in non CFS markets. A study in Oregon by UC Davis found the CFS equates $80M/yr in public health benefits.

## Is there enough feedstock to make the fuel?

**YES–** The Advanced Biofuels Association conducted a study on feedstock availability. It was concluded that municipal solid waste and fats, oils and greases, (FOGs), along with fit-for-purpose energy crops will provide 93 billion gallons of renewable diesel and there are more than sufficient feedstock supplies to transition the fuel supply to renewables.




A study by the Union for Concerned Scientists shows that under a clean fuel standard, a “steady progress” scenario would decrease the carbon intensity of fuels by over 14% with ample credits available on the market.

## Who benefits from a CFS?

- Those who need access to EVs and EV infrastructure
- Industries in difficult to decarbonize sectors including maritime, long-haul trucking, and drayage
- Business and commercial airlines gaining access to sustain-able aviation fuels
- Individuals seeking jobs in the renewable sector

## What changes to fuel choice does the CFS bring to customers?

The clean fuel standard provides consumers with additional transportation fuel choices. A CFS widens the choice of fuel from standard gasoline and diesel and incentivizes the use of clean forms of energy for transportation including electricity, biodiesel, renewable diesel, ethanol, hydrogen, renewable natural gas, and efuels of the future.