



Journalist's Guide to California's Low Carbon Fuel Standard

February 2015

As the California Air Resources Board prepares to re-adopt the Low Carbon Fuel Standard, California Delivers has provided this resource that journalists might find helpful:

- A brief overview of California's Low Carbon Fuel Standard
- An explanation of what's happening
- A list of relevant data points
- A list of sources who are available for interview

What is the Low Carbon Fuel Standard?

The Low Carbon Fuel Standard sets pollution limits for transportation fuels in California – a 10% reduction in carbon pollution by 2020. By not picking winners, the LCFS supports a wide range of technologies enabling the transition to lower carbon fuels such as clean electricity, renewable fuels and natural gas. The LCFS was adopted in 2009 by the Air Resources Board (ARB) and went into effect in 2011.

How does the LCFS program work?

The standard is implemented using a market-based approach that rewards fuel producers that reduce carbon pollution with reduction credits. Those credits have a financial value within the program. ARB estimates LCFS credits can be worth as much as \$1/gallon or more for ultra-low carbon fuels. At the end of each year, refiners and importers of gasoline and diesel must demonstrate they have met their reduction targets either through reducing their emissions directly or purchasing credits from low-carbon fuel producers.

Who's eligible to receive credits?

Any producer that sells a low-carbon transportation fuel is eligible to receive LCFS credits. This includes, but is not limited to:

- Anyone that owns and operates a fueling station that dispenses compressed natural gas (CNG) for use as a transportation fuel
- Any entity that provides the public with equipment to charge plug-in electric vehicles
- Any employer that provides electric vehicle charging to employees
- Producers of renewable fuels

Los Angeles Daily News

"The state's pioneering energy and pollution policies give clear market signals that other states cannot match."

Andrew Benedek, CEO of Anaergia
February 12, 2015

What is the ARB doing in 2015 and why?

The ARB is “re-adopting” the LCFS, which has been in effect since 2011. At its February meeting, the Board will hear the staff’s re-adoption proposal and take public comment. The staff is updating several key parts of the regulation to reflect the latest science and further enhance the program. This hearing also satisfies a judicial requirement for the board to adhere to a certain procedure when adopting new rules. The state Appeals Court ruled in 2013 that ARB could continue to implement the LCFS while addressing the procedural issues.

What are the potential benefits for local government and fleet owners?

The credits generated by fleets depend on the amount of reductions they achieve from using low carbon fuels. The value from those LCFS credits can help offset fleet expenditures. For illustrative purposes, we consider three potential examples based on a credit price range of \$65 – \$120 per credit.

The Fresno Bee

“The only reliable way to protect ourselves against gas price volatility is to use less. Fortunately, California is moving forward with policies that are helping us get more bang for our gasoline buck and providing consumers with greater fuel and transportation choices, while our state economy continues to grow faster than the national average.”

Adrienne Alvord
 Union of Concerned Scientists
 January 3, 2015

	Ex 1: Fleet of light-duty battery EVs	Ex 2: Fleets of medium-duty CNG vehicles	Ex 3: Fleet of heavy-duty CNG transit buses
Fuel used	Electricity	CNG	CNG
Fuel displaced	Gasoline	Diesel	Diesel
# of vehicles	20	20	20
Annual miles traveled per vehicle	8,000 miles	12,000 miles	60,000 miles
LCFS credit potential per year	40 credits	42 credits	660 credits
LCFS revenue potential per mile	1.6 – 4.0 c/mile	1.1 – 2.1 c/mile	2.9 – 5.3 c/mile
LCFS revenue potential per year	\$2,500 – \$4,800	\$2,700 – \$5,000	\$34,400 – \$63,600

Source: ICF International

Experts Available for Interview

John Boesel

CALSTART is an industry trade organization representing fleet operators, alternative fuels companies and other businesses committed to transitioning to cleaner transportation

Contact: *Mary Kathryn Campbell*,
mkcampbell@calstart.org

Tim Carmichael

President

California Natural Gas Vehicle Coalition, an association of natural gas vehicle and engine manufacturers, utilities, fuel providers and fleet operators serving the state

Jeremy Martin,

Union of Concerned Scientists

Martin, a senior scientist in the Clean Vehicles Program, evaluates the impact of biofuels and fuel policy.

Contact: *Debbie Holtz*
ucscamedia@ucsusa.org

Lisa Mortenson

Co-Founder and CEO of Community Fuels

Contact: lisa@communityfuels.com

Simon Mui

Natural Resources Defense Council

Mui is the California Director for their clean vehicles and fuels program

Contact: smui@nrdc.org

Colin Murphy

NextGen Climate America

Murphy is a climate policy advocate and an expert in advanced biofuel systems, life cycle analysis and alternative fuel policy.

Contact: cmurphy@nextgenamerica.org

Amy Myers Jaffe

Jaffe is Executive Director of Energy and Sustainability at UC Davis and a global energy policy expert

Contact: *Steve Kulieke* skulieke@ucdavis.edu

Philip Sheehy

ICF International

Sheehy is an expert in the LCFS credit market expert and local government fleets

Contact: Philip.sheehy@icfi.com

Mary Solecki

Environmental Entrepreneurs (E2),

a national non-partisan business group

Contact: mary@e2.org

Eileen Wenger Tutt

California Electric Transportation Coalition is a non-profit association working to reduce greenhouse gases and air pollution through the development and use of electric transportation.

Steve Westly

Founder & Managing Partner of

The Westly Group

Contact: *Joel Berman* joel@stevewestly.com

THE SACRAMENTO BEE

“As the state Air Resources Board gets ready to re-adopt the standard, we have one simple message: Keep going. California’s commitment to developing cleaner fuels is paying dividends for companies, the state and the nation.”

John Boesel and Michael McAdams
CALSTART and Advanced Biofuels Assn
February 2, 2015

Relevant Data Points

- California is home to more than 40,000 businesses serving advanced energy markets, employing roughly 431,800. (Source: Advanced Energy Economy Institute, *California Advanced Energy Employment Survey*, December 2014)
- Low carbon fuels could replace up to 400,000 barrels of gasoline and diesel use per day, reducing the overall carbon intensity of transportation fuels in California and the Pacific Northwest by 14% to 21% by 2030. (Source: Potential Low Carbon Fuel Supply to the Pacific Coast Region of North America. ICCT, January 2015)
- Alternative fuels' share of California transportation fuels, by energy content, grew from 6.2% in 2011–2012 to 7.3% in 2013, and are capable of tripling in the next 10 years. (Source: UC Davis, *Status Review of California's Low Carbon Fuel Standard*, July 2014; Promotum. *California's LCFS: Evaluation of the Potential to Meet and Exceed the Standards*, February 2015)
- The advanced biofuel industry will have up to 1.7 billion gallons of production capacity in the United States by 2017. (Source: E2, *Advanced Biofuel Market Report 2014*, January 2015)
- A credit value of \$100 per metric ton provides sufficient incentive to achieve a 10% reduction in fuel carbon intensity by 2020 and a 15% reduction by 2025. Even at a relatively low credit price of \$50/ton, CA can meet the 2020 requirements. (Source: Promotum. *California's LCFS: Evaluation of the Potential to Meet and Exceed the Standards*, February 2015)
- Since 2007 there has been over \$3.7 billion in private equity investment in advanced biofuels enterprises nationwide. (Source: E2, *Advanced Biofuel Market Report 2014*, January 2015)
- Electricity as a transportation fuel can displace 620 million to 3.3 billion gallons of gasoline in 2030, and is already displacing gasoline by 16 million gallons per year. (Source: ICF International and E3, *California Transportation Electrification Assessment, Phase 1*, September, 2014)
- By 2025, thanks to California's clean fuels policies (LCFS & Fuels in Cap), Californians will save over \$100 billion from reduced sales at the pump; we will consume 21.4 billion fewer gallons of gasoline and 11.8 billion fewer gallons of diesel fuel. (Source: EDF and American Lung Association, *Driving California Forward*, May 2014)
- California leads the nation in hybrid and plug-in electric vehicle sales, with more than 118,000 PEVs on the road, comprising roughly 40% of the U.S. plug-in market. (Source: Plug-in Electric Vehicle Collaborative, Cumulative CA PEV sales 2011-2014)
- To date, the LCFS has cut emissions by about 9 million metric tons—that's equivalent to removing about 1.9 million passenger cars from the road for a year. (Source: Natural Resources Defense Council Fact sheet. 9 MMT reduced)
- For every dollar oil companies spend more on clean renewable fuels they spend more than \$50 to produce more oil from dirty sources. (Source: Natural Resources Defense Council, *Oil Companies' Investments in Dirty Fuels Outpacing Clean Fuels by Fifty Times*)
- \$41 billion leaves the state every year in crude oil and petroleum imports. (Source: International Energy Agency, *World Energy Outlook 2009* together with Bloomberg New Energy Finance data)