



HEADQUARTERS
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July 15, 2022

Joshua Grice
Washington Department of Ecology
Air Quality Program
Olympia, WA 98504-7600

Submitted online via: <https://aq.ecology.commentinput.com/?id=6Nx2J>

RE: Washington Climate Commitment Act Program Rule

Dear Mr. Grice:

POET, the world's largest producer of biofuels, appreciates the opportunity to submit these comments to the Washington Department of Ecology in response to the agency's Climate Commitment Act (CCA) Program rulemaking.¹ POET supports the goal stated in the CCA of reaching net zero greenhouse gas (GHG) emissions in the Washington transportation sector by 2050. Increasing renewable alternatives aligns with POET's mission and is essential to mitigating climate change and protecting human health and the environment. POET recommends that Ecology make minor changes to the proposed rule language to achieve these emissions reductions more effectively. This comment addresses the necessary changes.

About POET

[POET](#)'s vision is to create a world in sync with nature. As the world's largest producer of biofuels and a global leader in sustainable bioproducts, POET creates plant-based alternatives to fossil fuels that utilize the power of agriculture and cultivate opportunities for America's farm families. Founded in 1987 and headquartered in Sioux Falls, POET operates 33 bioprocessing facilities across eight states and employs more than 2,200 team members. With a suite of bioproducts including Dakota Gold and NexPro feed, Voilà corn oil, purified alcohol, renewable CO₂ and JIVE asphalt rejuvenator, POET is committed to innovation and advancing solutions to some of the world's most pressing challenges. POET holds more than 80 patents and continues to break new ground in biotechnology, yielding ever-cleaner and more efficient renewable energy. In 2021, POET released its inaugural [Sustainability Report](#) pledging carbon neutrality by 2050.

Washington's Cap and Invest Program

As directed under the CCA, Ecology is drafting rules to implement a Cap and Invest Program for Washington. The proposed rule builds on existing GHG reporting regulations and

¹ RCWA, Transportation Fuel—Clean Fuels Program, § 70A.65 (2021).

establishes a declining cap on GHG emissions from specific entities. It creates a program to track, verify, and enforce compliance with the cap.² Among other entities, this proposed rule applies to “any supplier of fossil fuel other than natural gas when, for any calendar year from 2015 through 2019, 25,000 metric tons or more of covered emissions of carbon dioxide equivalent per year would result from the full combustion or oxidation of that fuel in Washington.”³ These suppliers of fossil fuel will be subject to the GHG cap and compliance obligations under this proposed rule.

Fuel retailers to whom POET sells bioethanol likely will be subject to these regulations, and use of POET bioethanol likely will be a significant means by which such retailers meet their resulting compliance obligations.

Ecology’s proposed rule creates a number of exemptions from the cap on GHG emissions. One exemption is that “carbon dioxide emissions from the combustion of biomass, renewable fuels of biogenic origin, or biofuels from any facility, supplier, or first jurisdictional deliverer” are not included in the covered emissions that are subject to the yearly emissions cap.⁴ To fall under the exemption for biofuels emissions, the fuel must be derived from biomass and have at least 40% lower GHG emissions based on a full lifecycle analysis when compared to petroleum-based fuels.⁵ POET believes this requirement is problematic and urges Ecology to delete the 40% requirement for the reasons discussed below.

a. The 40% Requirement Frustrates the Goals of the WA Clean Fuels Program Rulemaking

The 40% GHG reduction requirement in this proposed rule unnecessarily interferes with Ecology’s Clean Fuels Program Rule (CFP). The CFP would require yearly reductions in the carbon intensity of transportation fuels in Washington. POET supports the CFP rulemaking and has been participating actively in the rulemaking process. Under the CFP rulemaking, Ecology is taking comments on which lifecycle assessment (LCA) model the agency will use to determine the carbon intensity of various transportation fuels and which inputs the model will include. The question of what LCA model to use and how to use it is a central element of the CFP rulemaking and therefore will elicit substantive comments from stakeholders who are focused and expert on this issue. By contrast, the reference to the LCA in the proposed Cap and Invest rule is a relatively smaller element of the overall design, and therefore may escape the attention of stakeholders with expertise to offer. Further, the LCA modeling decision in the CFP rulemaking is lengthy and complex, and Ecology may decide to conduct additional rulemakings to modify the LCA model. Because this LCA evaluation is part of the CFP and is subject to adjustment in the near future, Ecology should not use the Cap and Invest rulemaking to regulate lifecycle emissions. The purpose of the Cap and Invest rulemaking is to reduce direct GHG emissions in Washington rather than lifecycle emissions, and the only reference to lifecycle emissions in the proposed rule appears in the definition of biofuel. Ecology should leave issues concerning LCA to the CFP.

² WAC 173-446-010.

³ WAC 173-446-030(d).

⁴ WAC 173-446-040(2)(i).

⁵ WAC 173-446-020.

Additionally, the 40% requirement could create a leakage problem in Washington, thwarting the CFP's goal of incentivizing lower carbon transportation fuels in the state. If retailers do not benefit by blending biofuels like bioethanol, the demand for biofuels in Washington may decrease. Companies like POET could be incentivized to sell to fuel providers in markets that do not penalize biofuels in this way instead of in Washington, and similarly fuel providers could be incentivized to sell less biofuel in Washington. By reducing the incentive for clean transportation fuels in Washington, the 40% requirement could frustrate the CFP's goals to lower the state's transportation emissions.

b. 40% Requirement Could Increase Gasoline Prices

The 40% requirement could result in higher gasoline prices in Washington. Increased bioethanol in gasoline has been shown to reduce prices at the pump.⁶ As discussed above, if Ecology includes a 40% requirement in the CCA rulemaking, bioethanol emissions may be included in suppliers' emissions for purposes of complying with the cap. In this case, fuel supplier's demand for bioethanol could decrease. POET likely would have a strong incentive to sell bioethanol into more lucrative markets with higher demand such as California.

c. The 40% Requirement is in Contrast to Similar Programs in Other States

Ecology is statutorily required to "consider opportunities to implement the program in a manner that allows linking the state's program with those of other jurisdictions."⁷ To the extent Ecology is looking to existing state cap and invest programs, the draft language departs significantly from California's program. California's Cap and Trade Program excludes emissions from biomass-derived fuels from the GHG emissions cap and compliance obligations and does not include a 40% requirement in the definition of biofuel.⁸ POET encourages Ecology to harmonize with the California program.

d. The Proposed Rule Underestimates the Environmental Benefits of Bioethanol.

Biofuel is an important solution to reducing liquid fuel emissions even as states transition to greater electrification of the transportation sector, and the proposed rule language underestimates bioethanol's climate benefits. Conventional bioethanol has the capacity to substantially reduce GHG transportation emissions while reducing other harmful air pollutants such as BTEX compounds (benzene, toluene, ethylbenzene, and xylene) and PM_{2.5}.⁹

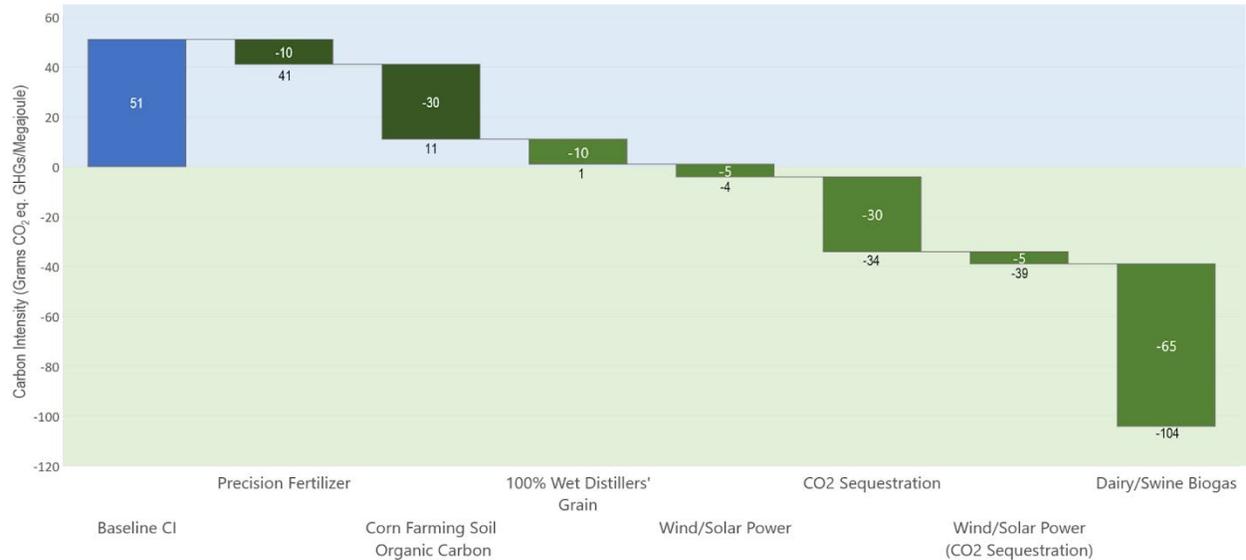
⁶ In states where gasoline blended with 15% ethanol (E15) is available for sale (31 states today), E15 has sold in recent months as much as \$1 less per gallon to regular gasoline blended with only 10% ethanol (E10). A recent economic analysis by Edgeworth Economics found that similar benefits could be realized by California if E15 is authorized for sale in the state. *See* Attachment 1.

⁷ RCW 79A.65.060(3).

⁸ Cal. Code Regs. Title 17 § 95802, 95852.2(a) (2022).

⁹ *See* Kazemiparkouhi, Fatemeh et. al, *Comprehensive US database and model for ethanol blend effects on regulated tailpipe emissions*, 2022 SCIENCE OF THE TOTAL ENVIRONMENT, Vol. 812 151426, <https://www.sciencedirect.com/science/article/pii/S0048969721065049>.

The arguments in this letter are based upon POET’s concern that Washington’s LCA model mistakenly could conclude that bioethanol does not have 40% lower GHG emissions than gasoline. Recent studies, however, show that corn starch bioethanol’s carbon intensity (CI) is 46% lower than that of gasoline.¹⁰ With technologies already being implemented or on the cusp of commercialization, bioethanol has the ability to become a zero-carbon fuel. The chart below compares bioethanol’s CI score to a gasoline baseline and shows technologies, many of which POET has already implemented and others which the company is evaluating, that would allow bioethanol to become a zero-carbon fuel:



Innovations across the biofuel production lifecycle have resulted in increasingly cleaner liquid biofuels. These innovations will only continue to drive down the CI of conventional and advanced biofuels.

The 40% GHG reduction requirement for biofuels could impede technological innovation in Washington liquid fuels by limiting the state’s biofuel market and reducing the revenues that biofuel producers use to develop the new practices and technologies that will further reduce GHG emissions. As discussed above, POET urges Ecology to remove the 40% requirement to keep the incentive for innovative low carbon fuels in Washington.

* * *

POET strongly supports Washington’s efforts to reduce GHG emissions. We appreciate Ecology’s consideration of these comments and look forward to engaging in a productive dialogue with the Agency on the Climate Commitment Act Program rulemaking and the role biofuels play in helping Washington achieve its GHG reduction goals. If you have any questions, please contact me at Matt.Haynie@POET.COM or (202) 756-5604.

¹⁰ Sully, Melissa *et al.*, *Carbon Intensity of Corn Ethanol in the United States: State of the Science*, 2021 Environ. Res. Lett 16 043001, 4, 14 (2021), <https://iopscience.iop.org/article/10.1088/1748-9326/abde08>.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt", is positioned above the typed name.

Matthew Haynie
Senior Regulatory Counsel
POET, LLC

EVALUATION OF POTENTIAL E15 SALES IN CALIFORNIA

Edgeworth Economics

April 5, 2022

I. Introduction

Blending ethanol into gasoline provides a variety of benefits for consumers, the environment, and the U.S. economy more generally. Domestically produced ethanol has largely replaced other fuel additives (which may be harmful to health, more expensive, and/or less effective), and further reduces the need for imported crude oil, reduces carbon emissions, and reduces the total costs to produce gasoline. Most gasoline sold at retail today is a blend known as “E10” which contains approximately 10 percent ethanol combined with petroleum-based gasoline blendstock.

These benefits, however, are not limited to a 10-percent ethanol blend. Increasing the share of ethanol in gasoline is a trend that has accelerated around the U.S. in recent years. Increasing the ethanol blend up to 15 percent (“E15”) results in gasoline with comparable quality to E10, while providing proportionately more of the benefits noted above. In 2012, the U.S. Department of Energy (DOE) conducted a rigorous test of E15 across a range of engine types and found no adverse impact on any measure of performance, including fuel economy as well as maintenance, stating:¹

The Energy Department testing program was run on standard gasoline, E10, E15, and E20. The Energy Department test program was comprised of 86 vehicles operated up to 120,000 miles each using an industry-standard EPA-defined test cycle (called the Standard Road Cycle). *The resulting Energy Department data showed no statistically significant loss of vehicle performance (emissions, fuel economy, and maintenance issues) attributable to the use of E15 fuel compared to straight gasoline.*

Currently, E15 is offered for sale in 30 states. However, the largest market for gasoline in the U.S., California, has yet to approve E15 for retail sale. This paper analyzes trends in E15 sales across the U.S. and assesses the potential benefits for California consumers and retailers from the introduction of that fuel blend.

II. Cost-Related Benefits of E15 to Consumers and Gasoline Retailers

As noted above, in addition to benefits related to energy security and sustainability, the use of E15 provides potential savings for consumers and retailers based on the difference in the wholesale cost of the components of E15 relative to E10. In particular, ethanol generally sells for less, per gallon, than gasoline blendstock, and the generation of credits under the national Renewable Fuel Standard program (known as Renewable Identification Numbers or “RINS”) when blending ethanol into gasoline provides additional value from increasing the proportion of ethanol in retail gasoline. In California, ethanol provides further benefits

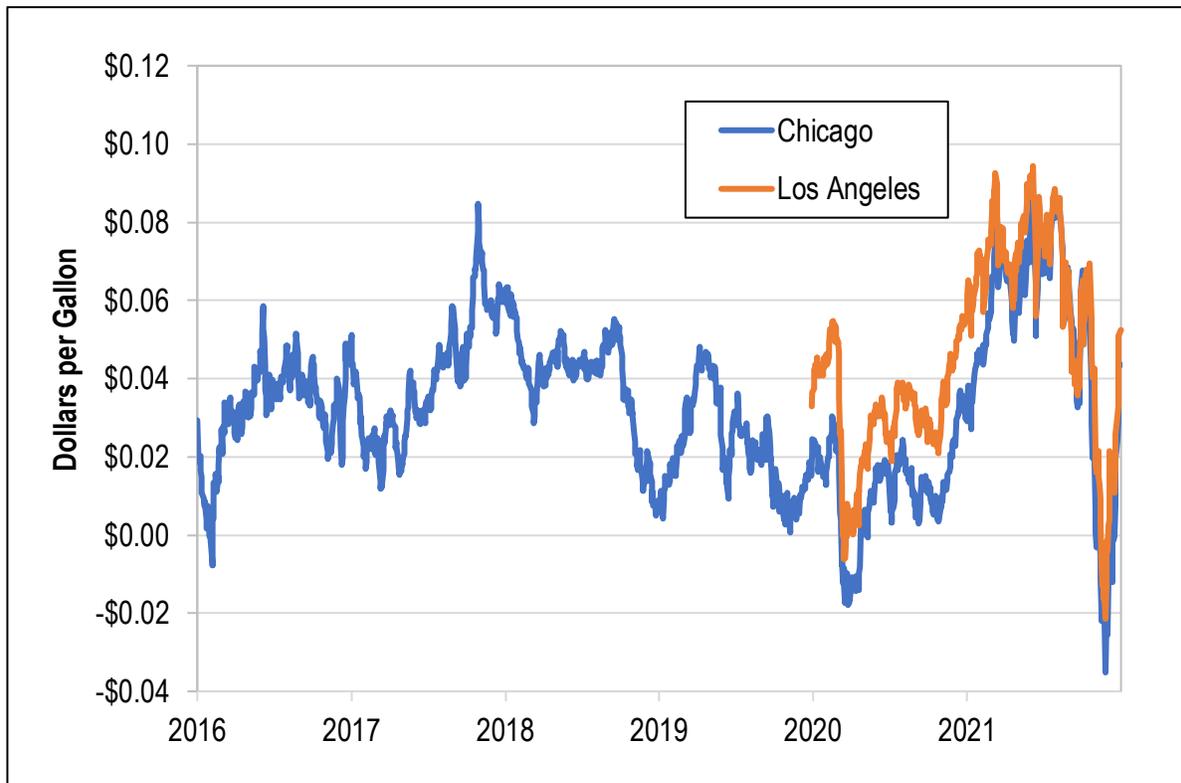
¹ DOE, “Getting It Right: Accurate Testing and Assessments Critical to Deploying the Next Generation of Auto Fuels,” May 16, 2012 (emphasis added), available at www.energy.gov/articles/getting-it-right-accurate-testing-and-assessments-critical-deploying-next-generation-auto.

due to the Carbon Intensity (“CI”) value under the Low Carbon Fuel Standard (“LCFS”) program. The savings generated by E15 relative to E10 can be calculated from the wholesale prices of gasoline blendstock, ethanol, D6 (conventional) RINs, and (for California) CI value as follows:²

$$E15 \text{ Savings Relative to E10 per Gallon of Gasoline} = (\text{Blendstock Price} - \text{Ethanol Price} + \text{RIN Price} + \text{CI Value}) \times 5\%$$

Using this formula, the savings as measured at Los Angeles and Chicago generally have fluctuated between zero and 8 cents per gallon over the last several years, as shown in Figure 1.³ In 2021, the E15 discount averaged \$0.051 per gallon using Chicago pricing and \$0.060 per gallon using Los Angeles pricing combined with the CI value in California.

Figure 1
E15 Savings Relative to E10 (Wholesale), 2016 – 2021



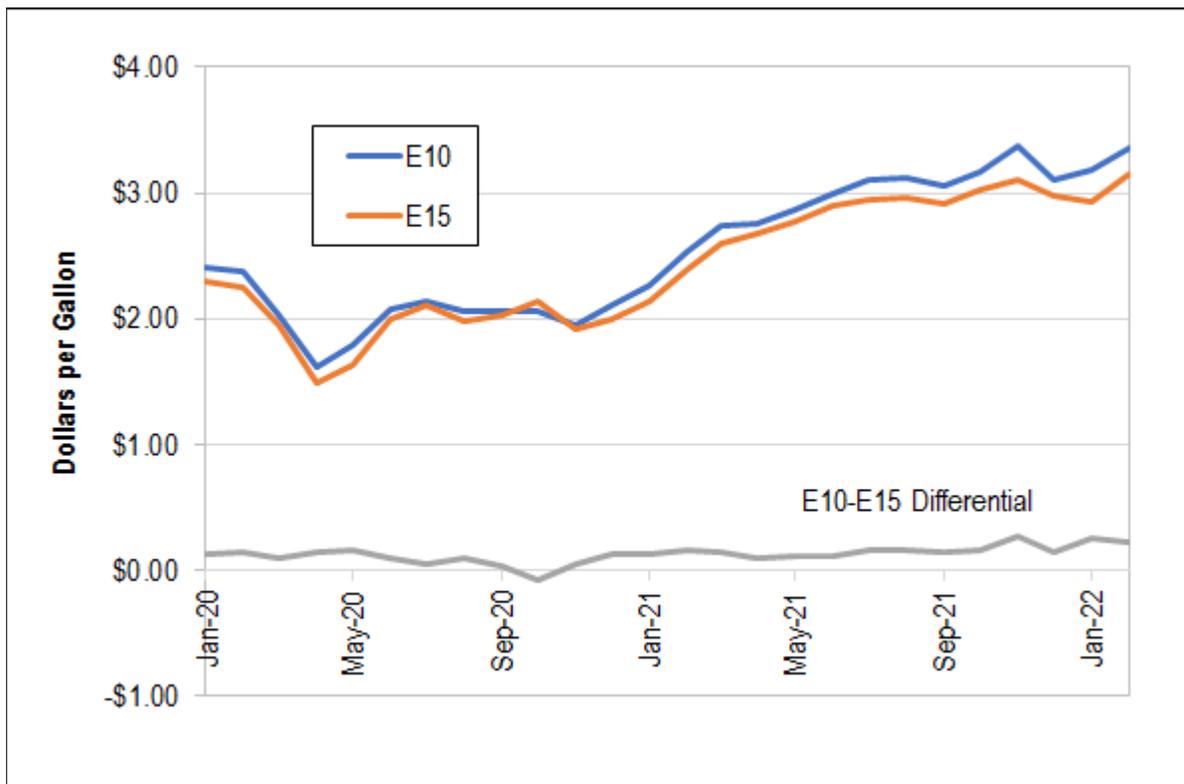
Source: OPIS and Edgeworth Economics calculations (see text).

² For this calculation, the OPIS ethanol quote for Los Angeles is assumed to incorporate a CI score of 79.9. The average CI score for actual ethanol volumes in California is assumed to be 58.6, based on 2020 values. [RFA, “The California LCFS and Ethanol: A Decade of Reducing Greenhouse Gas Emissions,” May 2021]

³ As shown in Figure 1, for brief periods the discount for E15 relative to E10 has fallen below zero due to temporary increases in the prices of ethanol relative to gasoline blendstock, two fuels which otherwise generally move in similar directions. A variety of circumstances can lead to these conditions; but they usually last for short periods and usually are related to the higher volatility of gasoline prices relative to ethanol prices. For example, CBOB prices fell substantially in March-April 2020 due to conditions associated with the COVID pandemic, while ethanol prices were affected less significantly. The opposite circumstances occurred in late-2021, when CBOB prices rose significantly for about two months, while ethanol prices remained relatively flat.

Moreover, these savings apparently are being passed on to consumers, as retail price differentials have generally equaled, if not exceeded, the wholesale differentials in recent months. As shown in Figure 2, according to data self-reported by certain stations to the Renewable Fuels Association (“RFA”), the discount for E15 relative to E10 has averaged approximately \$0.12 per gallon since January 2020.⁴

Figure 2
Average E10/E15 Differential at Retail, January 2020 – February 2022



Source: RFA website, e85prices.com.

Note: These averages are based on self-reporting to RFA by dozens of stations across approximately 20 states.

III. E15 Sales/Station Growth

The experiences from a number of states across the U.S. demonstrate the potential for E15 growth in California. E15 was introduced in a few states in 2012, and growth in terms of the number of stations offering the product as well as sales per station began to accelerate around 2016/2017. While corn-producing states in the Midwest have led the industry, with some states now offering E15 at more than 5 percent and even more than 10 percent of all gas stations, significant gains have been seen in many other states, including large states distant from the corn-growing region such as Florida and Pennsylvania. Nationwide, there are now approximately 2,600 stations that offer E15 across 30 different states (see Table 1). This figure has more than doubled in just the last four years, as shown in Figure 3.

⁴ There are a variety of reasons why retail discounts for E15 may exceed the wholesale values, as calculated above. For example, some stations may choose to price E15 below the notional spread from E10 as a loss leader. Other stations may expect different assessments by consumers regarding the octane value of ethanol-based fuels. Finally, the stations reporting E15 prices to RFA may not be representative of the entire industry due to regional factors or particular marketing strategies.

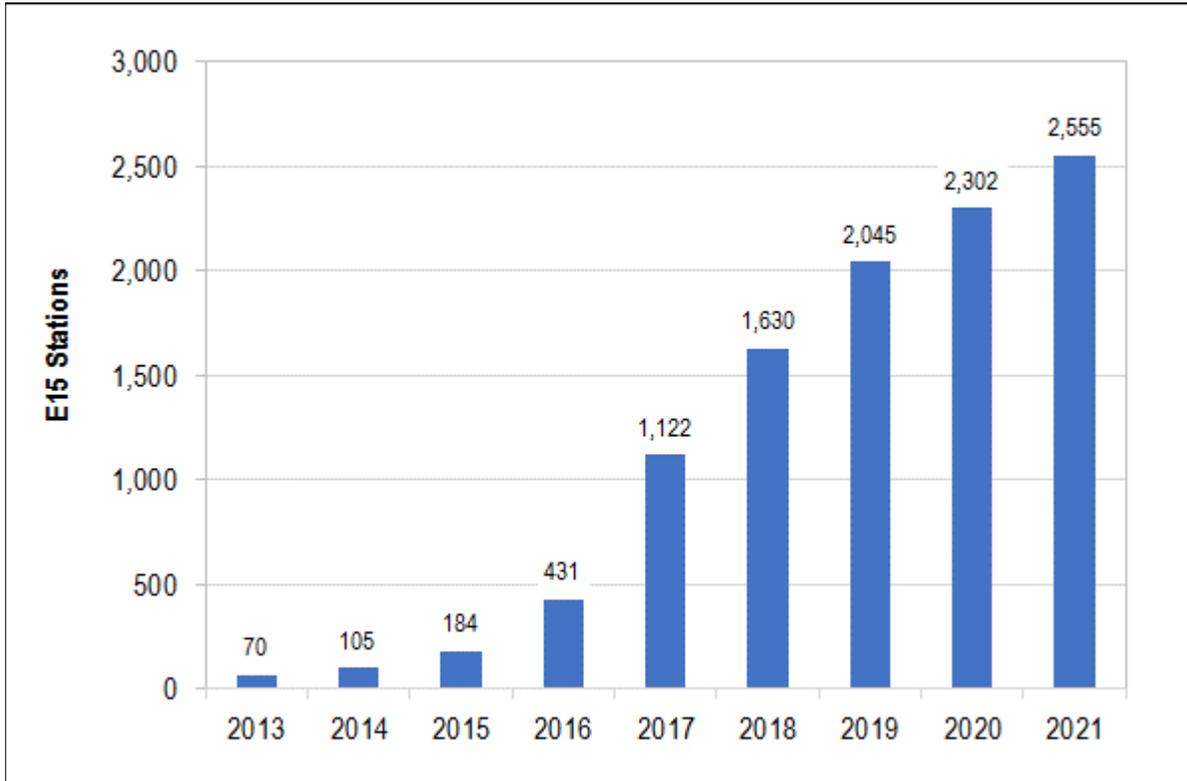
Table 1
Gas Stations Offering E15, by State, as of January 2022

State	Stations Offering E15	% of All Stations in the State
MN	372	14.4%
WI	302	9.1%
IA	274	12.6%
TX	196	1.6%
FL	186	2.3%
PA	155	3.7%
IL	135	3.8%
NE	110	7.8%
GA	95	1.2%
NC	85	1.5%
AL,AR,CO,IN,KS,KY,LA,MD,MI,MO,MS,ND,NM, OH,OK, SD,TN,VA,WV,WY	653	1.3%
AK,AZ,CA,CT,DC,DE,HI,ID,MA,ME,MT,NH,NJ, NV,NY, OR,RI,SC,UT,VT,WA	0	0.0%
U.S. Total	2,563	1.8%

Sources: RFA station list, as of January 2022; DOE website, afdc.energy.gov/files/u/data/data_source/10333/10333_gasoline_stations_year.xlsx.

Note: Total number of gas stations is based on 2012 data from the NACS, extrapolated to 2022 based on the 2007-2012 trend.

Figure 3
Total Number of Gas Stations in the U.S. Offering E15, 2013 – 2021



Source: RFA.

Two states, Iowa and Minnesota, have tracked E15 sales at the station level and publish data that allows a more granular assessment of these trends. As shown in Table 2, over the last few years, these two states have seen rapid increases in both the number of stations offering E15 as well as the volume of E15 sales per station, resulting in compound annual growth rates (“CAGR”) for total E15 sales in the range of 80 to 90 percent annually over the 5-year period through 2020. Prior to the COVID pandemic in 2020, which caused substantial declines in nationwide gasoline consumption, E15 growth was even more rapid, with 4-year average growth rates in the two states exceeding 100 percent—*i.e.*, more than doubling each year. As of 2020, sales of E15 in each of these two states had reached approximately 4 to 5 percent of all gasoline sales.

Table 2
Gas Stations Offering E15 and Total E15 Sales in Iowa and Minnesota, 2016 – 2020

	Iowa				Minnesota			
	Number of Stations Selling E15	E15 Gallons per Station	Total E15 Gallons (Million)	E15 Share of All Gasoline Sales	Number of Stations Selling E15	E15 Gallons per Station	Total E15 Gallons (Million)	E15 Share of All Gasoline Sales
2016	160	34,588	5.5	0.3%	112	50,750	5.7	0.2%
2017	226	122,604	27.7	1.8%	257	74,149	19.1	0.8%
2018	220	161,203	35.5	2.3%	337	177,149	59.7	2.6%
2019	244	200,653	49.0	3.1%	363	217,420	78.9	3.4%
2020	251	241,387	60.6	4.5%	394	190,554	75.1	3.7%
2016-2019 CAGR	15.1%	79.7%	106.8%		48.0%	62.4%	140.3%	
2016-2020 CAGR	11.9%	62.5%	81.9%		37.0%	39.2%	90.6%	

Sources: Minnesota Commerce Department website, mn.gov/commerce/consumers/your-vehicle/clean-energy.jsp; Iowa Department of Revenue website, tax.iowa.gov/report-category/retailers-annual-gallons; and DOE website, www.eia.gov/dnav/pet/pet_cons_prim_a_EPM0_P00_Mgalpd_m.htm.

Note: Total gasoline sales in Minnesota are from DOE estimates of Prime Supplier Sales Volumes of Motor Gasoline.

Due to resistance from the integrated refiners⁵, to date most of the growth in E15 sales nationwide has been generated by independent chains (*i.e.*, retailers without refinery/discovery operations) and owners of single stations or a small number of stations. Table 3 lists the major brands currently offering E15 across the U.S.

Table 3
Retail Gas Station Brands Offering E15, as of January 2022

Brand	E15 Stations	% of Total
Kwik Trip	451	17.6%
Casey's General Stores	398	15.5%
Sheetz	325	12.7%
Kum & Go	178	6.9%
RaceTrac	171	6.7%
Murphy USA	75	2.9%
Thorntons	75	2.9%
Kwik Star	73	2.8%
QuikTrip	70	2.7%
Holiday	56	2.2%
Integrated Refiners (e.g., Exxon, Chevron, Shell)	102	4.0%
Other	589	23.0%
Total	2,563	100.0%

Source: RFA.

⁵ See, for example, American Petroleum Institute website, www.api.org/news-policy-and-issues/fuels-and-renewable-policy/truth-about-e15-fuel.

IV. Potential E15 Sales in California and Savings for Consumers

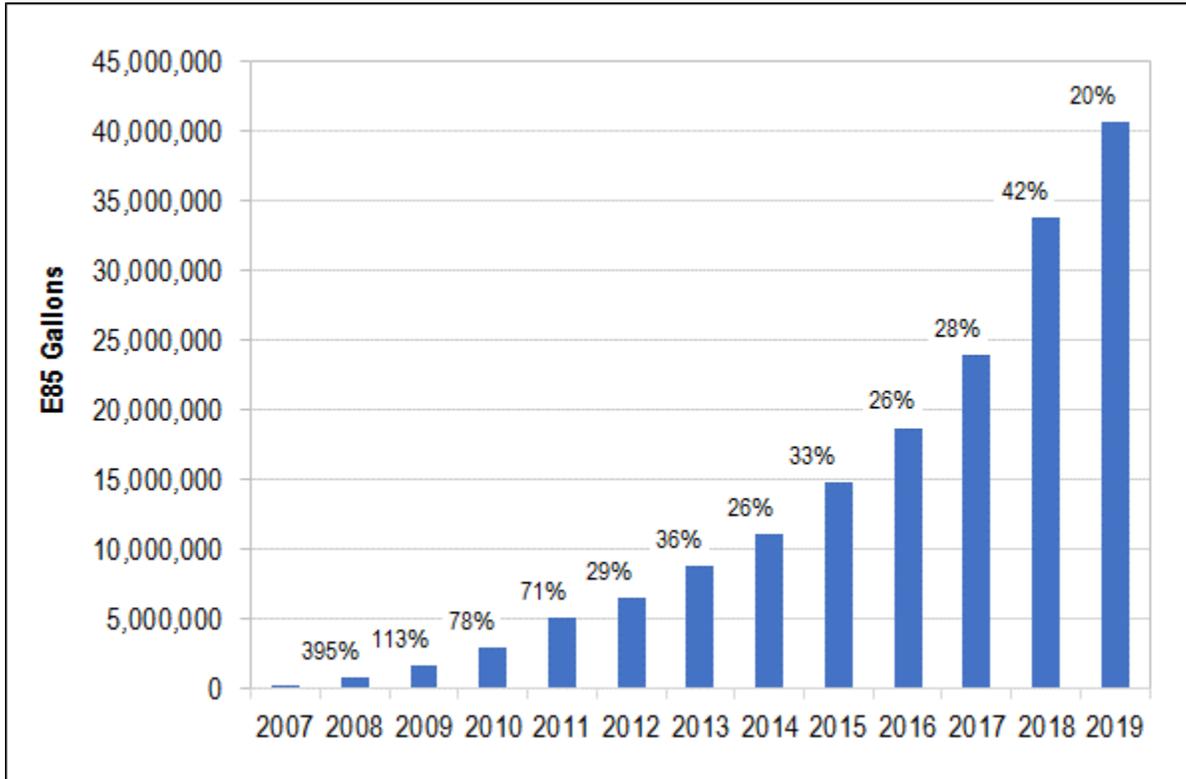
The pattern of growth evident in states that have allowed, and in some cases actively encouraged, the promotion of E15 provides evidence of the potential for E15 sales in California, as does California's own experience with other ethanol-based fuels, in particular E85.

California is home to a large number of independent retailers. Thus, continued resistance from the integrated refiners does not necessarily represent a limitation for the near-term expansion of E15 in California. According to the California Energy Commission, currently about 3,700 (43 percent) of California's approximately 8,700 gas stations are "unbranded" (*i.e.*, not affiliated with the integrated refiners) or operated by "hypermarkets" (retailers whose primary business is unrelated to oil/gasoline such as Costco, Sam's Club, and Von's).⁶

This flexibility is evident from the expansion of E85 in California, which also has been led primarily by independent retailers. Currently, about 250 stations in California already offer E85, with total sales volumes exceeding 40,000,000 gallons in 2019. As shown in Figure 4, E85 volumes in California have grown steadily, with an average increase of 30 percent annually during the 5-year period through 2019.

⁶ California Energy Commission, *Petroleum Watch*, July 2021, available at www.energy.ca.gov/sites/default/files/2021-07/2021-07_Petroleum_Watch.pdf. In addition to these two categories, the CEC notes that ARCO-branded stations, which represent an additional 10 percent of all California stations, purchase unbranded fuel from the rack. (See also, California Energy Commission, *Petroleum Watch*, January 2020, available at www.energy.ca.gov/sites/default/files/2020-02/2020-01_Petroleum_Watch.pdf.)

Figure 4
E85 Sales in California, 2007 – 2019 (with annual growth rate)



Source: California Air Resources Board website, ww2.arb.ca.gov/resources/documents/alternative-fuels-annual-e85-volumes.

If E15 is approved for sale in California, a growth pattern in line with California’s own experience with E85 as well as the history of E15 sales in other states would represent a significant addition to California’s overall fuel mix and could provide significant savings for consumers. For example, consider that over 13 percent of stations in Iowa and more than 22 percent of stations in Minnesota now offer E15, less than ten years after the first introduction of the product. Moreover, the bulk of that growth has occurred in just the last four years, with total E15 sales growing from less than 1 percent to 4-5 percent of total fuel sales during that period in the two states. If California could attain the same level of E15 penetration, that would represent savings of at least \$34 million annually (potentially shared between consumers and retailers), based on recent wholesale fuel prices.⁷ If California stations implement pricing strategies more representative of the stations assessed by RFA, as shown in Figure 2, above, then the savings to consumers could be much higher, reaching \$67 million annually.⁸ Such a transition actually would require

⁷ This figure is equal to a price differential of \$0.06 per gallon multiplied by 4 percent of California’s annual fuel consumption (approximately 14 billion gallons, based on DOE’s figure for 2019). [DOE website, www.eia.gov/dnav/pet/pet_cons_prim_a_EPM0_P00_Mgalpd_a.htm]

⁸ This figure incorporates a price differential of \$0.12 per gallon, based on the retail differential shown in Figure 2, above.

proportionately less participation from gas stations in California than in the Midwest states, since overall sales volumes tend to be significantly higher at California stations.⁹

Moreover, if any of the integrated refiners were to introduce E15 in California, the trend could accelerate even more rapidly. Recent events may indicate that some refiners are positioning themselves for that eventuality. For example, earlier this year Chevron announced that it was spending more than \$3 billion to acquire Iowa-based Renewable Energy Group, a company specializing in biofuel production and marketing.¹⁰ Renewable Energy Group currently sells both E15 and E85, and the company's website identifies the benefits of those fuels to include reduced emissions, improved engine performance, and other contributions to the U.S. economy.¹¹ Chevron operates more than 1,500 gas stations in California, representing about 20 percent of the total.¹² Thus, if Chevron were to introduce E15 in California, the expansion of that fuel's share of the market could increase even more rapidly than the historical trends in the other states, described above. For example, if, in addition to the growth at independent stations, one half of all Chevron stations in California introduced E15 and reached sales levels now experienced in the Midwest states described above (a modest target, given the higher overall gasoline throughput at California stations), savings for California consumers/retailers could reach approximately \$43 million to \$86 million annually.¹³

V. Transition Costs

The rapid growth in the number of stations offering E15 elsewhere in the U.S. indicates that transition costs are not likely to be a significant impediment to expansion in California. Adding a new fuel blend or replacing a previously sold blend, such as a mid-grade E10, are both feasible solutions for a gas station seeking to include E15 among its choices for retail customers.¹⁴ Pre-blended E15 currently can be obtained from almost 300 terminals located primarily across the Midwest and southern and eastern U.S., an increase from only five terminals as of 2017.¹⁵ If California approves E15 for retail sale, it is likely that wholesalers will begin to offer pre-blended E15 at terminals in California, as well.

Another option is for stations to blend on-site, using E85 and conventional E10. Blender pumps can be installed to replace pre-existing pumps or added in the normal course of expansion or upgrades over time. Blending on-site apparently is a common option for many stations today, as about 80 percent of the stations that currently offer E15 also offer E85.¹⁶ Thus, the 250 gas stations in California that already offer

⁹ Average fuel sales per station in California are approximately 1.9 million gallons annually, compared to about 0.7 million in Iowa and 1.1 million in Minnesota (based on DOE figures for 2019) [DOE websites, www.eia.gov/state/?sid=US and www.eia.gov/dnav/pet/pet_cons_prim_a_EPM0_P00_Mgalpd_a.htm]

¹⁰ Renewable Energy Group press release, "Chevron Announces Agreement to Acquire Renewable Energy Group," February 28, 2022, available at www.regi.com/blogs/blog-details/resource-library/2022/02/28/chevron-announces-agreement-to-acquire-renewable-energy-group.

¹¹ Renewable Energy Group website, www.regi.com/products/transportation-fuels/reg-gasoline-ethanol-blends.

¹² See footnote 6.

¹³ This range incorporates the figures calculated above plus additional E15 sales of 200,000 gallons per year at one half of Chevron's 1,559 stations in California (as of 2020).

¹⁴ See, for example, Jerry Soverinsky, "The Case for E15," *NACS Magazine*, February 2018, available at www.nacsmagazine.com/issues/february-2018/case-e15.

¹⁵ Based on data collected by Growth Energy.

¹⁶ RFA station list as of January 2022.

E85 would be likely candidates for early adoption of E15.¹⁷ The cost of a new blender pump, at about \$30,000, could be recouped from the savings generated by E15 in no more than one to three years, based on the range of price differentials observed at wholesale and retail, described above.¹⁸

Moreover, there exist a variety of programs to assist station owners with the introduction of new biofuels. For example, USDA's Higher Blends Infrastructure Incentive Program has made available up to \$100 million in grants to expand the availability of biofuels.¹⁹ Some of these funds already have been used to install blender pumps and new tanks at gas stations seeking to offer E85 and/or E15.²⁰ Private initiatives, such as Growth Energy's "Prime the Pump" program also offer support, including marketing assistance and funding to help cover transition costs.²¹

¹⁷ One company, Pearson Fuels, currently supplies E85 to more than 200 stations in California. [RFA station list and Pearson Fuels website, pearsonfuels.com/e85-gas-stations]

¹⁸ At 200,000 gallons per year (approximately the average throughput for E15 experienced at the stations tracked in Iowa and Minnesota, as described above), savings from selling E15 could generate \$10,000 to \$20,000 in additional profits per year, based on current wholesale/retail differentials. Moreover, since California gas stations generally experience greater levels of throughput than stations in those Midwestern states, payback of an initial investment in pumps likely would occur even more quickly in California.

¹⁹ USDA website, www.rd.usda.gov/hbiip.

²⁰ See, for example, Environmental and Energy Study Institute, "E15 Bill Attempts to Solve Ethanol Conundrum," June 16, 2017, available at www.eesi.org/articles/view/e15-bill-attempts-to-solve-ethanol-conundrum.

²¹ Growth Energy website, growthenergy.org/wp-content/uploads/2019/11/MDEV-19022-PTP-Overview-2019-11-12.pdf.