

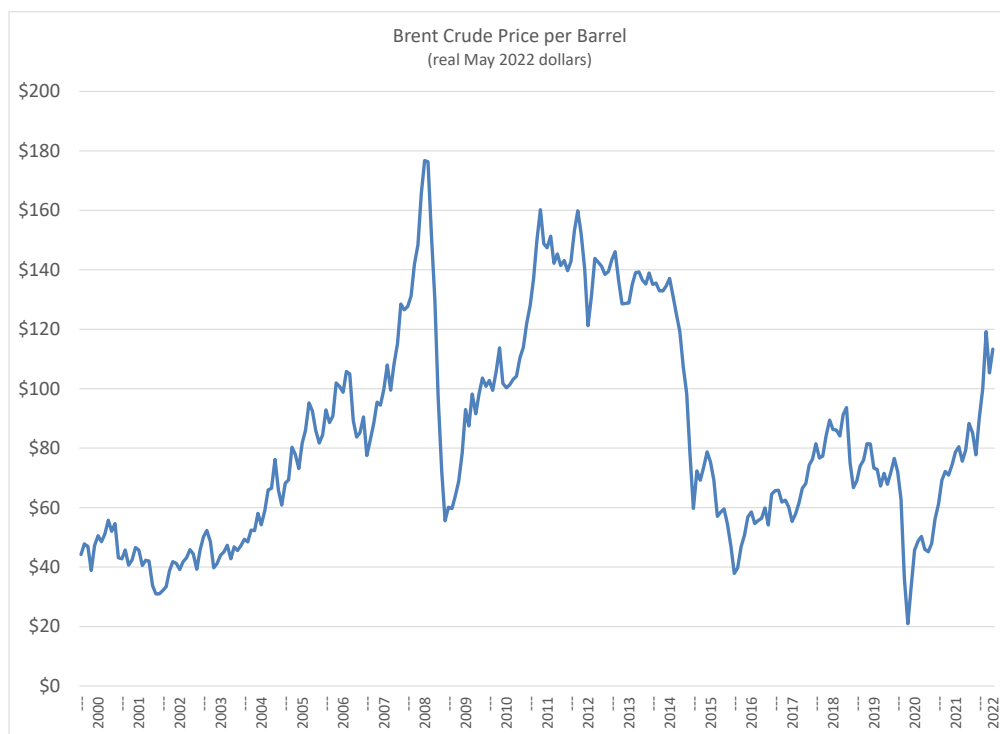
Testimony of Severin Borenstein
before the
California Assembly Select Committee on Gasoline Supply and Pricing
June 30, 2022

Good morning Assemblymembers. My name is Severin Borenstein. I am a Professor of the Graduate School at UC Berkeley's Haas School of Business and Faculty Director of the Energy Institute at Haas. The primary focus of my research has been energy markets for more than 30 years. I served on Attorney General Lockyer's gasoline task force in 1999-2000 and on the California Energy Commission's Petroleum Market Advisory Committee (PMAC) from its creation in 2014 to its close in 2017. I was chair of the PMAC from 2015 to 2017. A complete list of my publications, public service, and other background information on me is available at <http://borenstein.berkeley.edu>.

Thank you for inviting me to address this committee during its first hearing on gasoline prices. I am very pleased that this committee has been formed. I hope it will have the power and resources to do a deep dive into California's gasoline prices. The PMAC was able to establish that something was amiss in California's gasoline market beginning in 2015, but never had the necessary staff, resources, or authority to do the investigation necessary to uncover the cause of the dysfunction.

The PMAC noted that California's gasoline prices increased relative to the rest of the country in February 2015, following a fire at Exxon's Torrance refinery. Such price spikes are common after refinery disruptions in the state, but even after that refinery was repaired, California's prices never returned to their prior relationship to the average elsewhere in the country. Before February 2015, California had higher gas prices than most of the US, but the difference was virtually entirely explained by our higher taxes and environmental fees. Since then, California's gas prices have exceeded the average elsewhere in the US by an amount that in each year has averaged 28 cents to 50 cents above the differential that could be explained by our higher taxes and environmental fees, a difference I have called the "mystery gasoline surcharge." Leaders of the Western States Petroleum Association and other oil industry representatives have been asked repeatedly about the mystery gasoline surcharge, but their responses—pointing to California's higher gasoline taxes, cap and trade program, low-carbon fuel standard, higher wages and cost of doing business—have either ignored the fact that the mystery gasoline surcharge accounts for taxes and environmental fees or failed to address the fact that it did not exist before February 2015. Since 2015, I have calculated that the mystery gasoline surcharge has led to California drivers paying about \$40 billion more

Figure 1



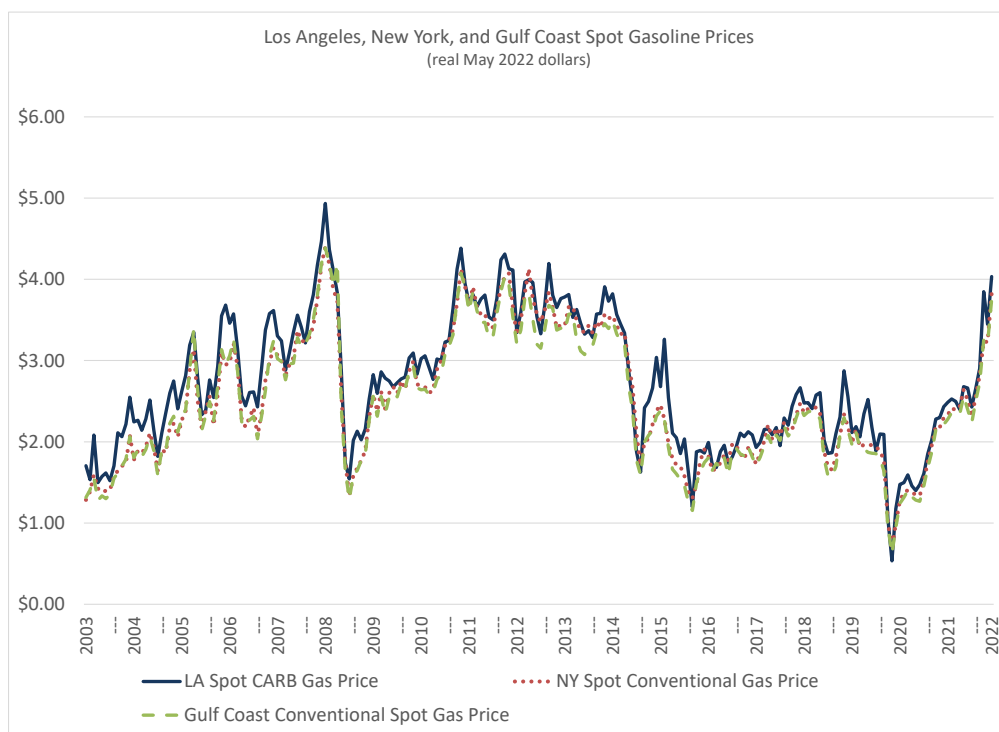
than they would have if California's prices had exceeded the rest of the US by only the difference in taxes and environmental fees, as was the case before 2015.

I believe that this committee should focus its attention on the mystery gasoline surcharge, and avoid being distracted by other factors that may be associated with high gasoline prices, but are not unique to California and are outside the influence of California policies. Some data will help this view.

First, oil prices are indeed at very high levels compared to the recent past as shown in figure 1.¹ Brent crude is the world benchmark price. Though it is not at an all time high, adjusted for inflation (as all the graphs I show will be) it has been climbing steadily since mid-2020 and is far more expensive than during the depth of the pandemic. Every \$1 per barrel increase in the price of crude oil shows up as about 2.4 cents per gallon in the wholesale price of gasoline and a bit more than that in the retail price when sales taxes are added in. So, an increase from \$40 to \$110 per

¹Most data for the figures presented in this testimony are from the Energy Information Administration, with additional data from the California Department of Tax and Fee Administration (California gasoline taxes), the California Air Resources Board (prices of California cap and trade allowances), Stillwater Associates (LCFS credit prices), and the Bureau of Labor Statistics (consumer price index).

Figure 2



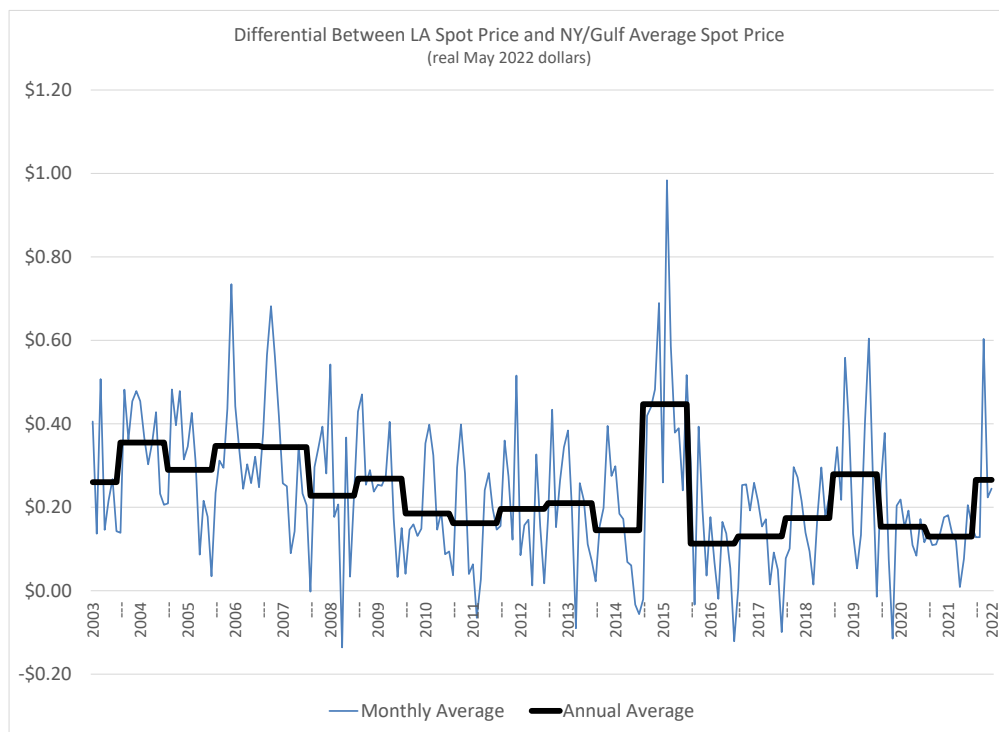
barrel will translate to an increase of about \$1.75 at the pump. The rising price of crude oil is the primary factor that has driven up gasoline prices in California, and everywhere else in the world, over the last two years.

Second, while California uses a cleaner burning gasoline and pays somewhat more for it at the refinery, this differential in the so-called spot price of gasoline does not explain a substantial part of the increased differential between California gas prices and elsewhere. Figure 2 shows spot gasoline prices for Los Angeles, New York, and the Gulf Coast, the three major pricing points in the US.² California's cleaner gasoline is generally more expensive than the conventional gasoline alternatives priced at the other two locations, but figure 3 shows that this differential, while noisy, has gradually declined over the last 20 years.

Nonetheless, though the price of crude oil is standardized around the world and the spot price of gasoline hasn't risen in California compared to the rest of the country, the retail price of gasoline in California most certainly has. After adjusting for California's higher gas taxes, the cost of cap and trade allowances, the cost of complying with the low-carbon fuel standard (as indicated by

²EIA data for LA spot gasoline prices only go back to mid-2003, so figures 2 and 3 start there.

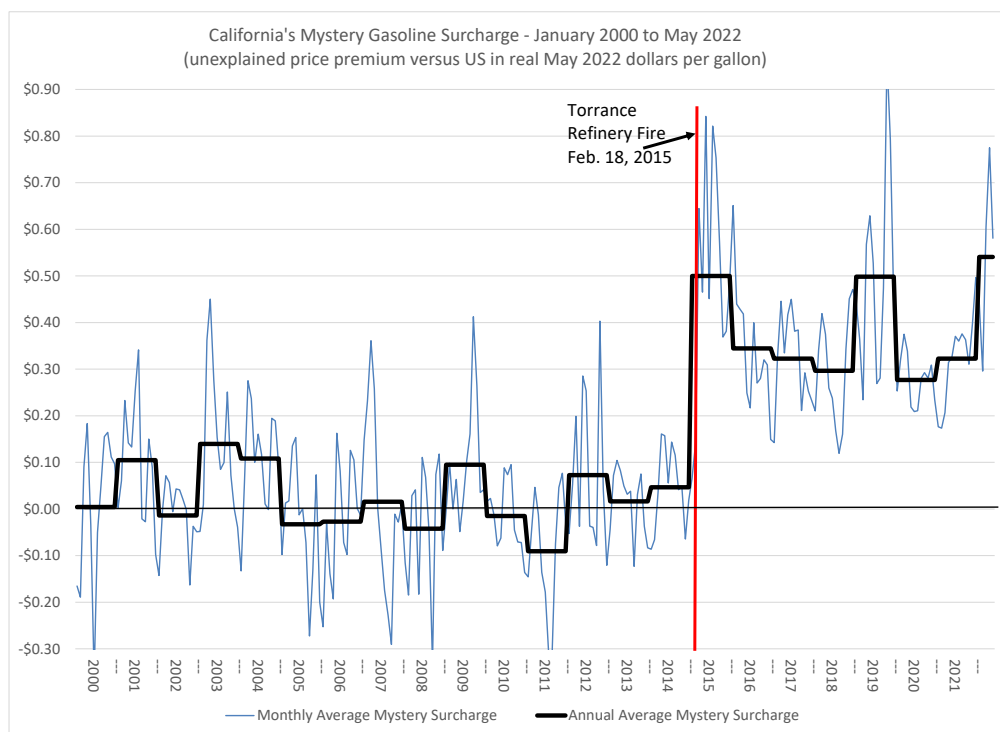
Figure 3



the price of tradable LCFS credits), and allowing a generous 10 cents per gallon for the extra cost of making our CARB gasoline, figure 4 shows the mystery gasoline surcharge. It is immediately evident that there was no mystery gasoline surcharge prior to February 2015, and that while it has fluctuated since then, it has never come close to pre-2015 levels. So far in 2022, it is averaging over 50 cents per gallon, of which the great majority cannot be attributed to differences in spot prices.

That means that the mystery gasoline surcharge is appearing somewhere between spot prices and pump prices, in the marketing, distribution, and retailing sectors of the California market. What's different about these sectors in California versus the rest of the country? For one thing, a far larger share of gasoline here flows through stations that are owned by refiners or have long-term contracts that give the refiners significant control over gas prices. As of 2018, when I wrote a blog post on the subject, about 50% of California stations had long-term contractual relationships with refiners versus 10% elsewhere in the U.S., according to the Energy Information Administration. Also, less gasoline is sold by off-brand stations – such as Costco, Safeway, or Rotten Robbie – which means they put less pressure on the major brands. In 2018, the price difference between

Figure 4



majors and off-brands averaged 23 cents per gallon in California, according to data from Gas Buddy. In the rest of the country, that difference averaged only 7 cents.

I think that shows a significant lack of competition from off-brand stations here. Still, California's dominance by majors is nothing new. In fact, the share of gasoline for which they set or heavily influence the retail price has declined over the last couple decades while the price gap between branded and unbranded has been climbing steadily since at least 2012, according to the California Energy Commission. At the same time, however, concentration of California refining capacity has increased through a number of mergers, so the overall dynamic is complex.

For these reasons, I would urge the committee to collect detailed information on the marketing, distribution, and retailing sectors, including the structures of the contracts between refiners and retailers and the conditions under which unbranded outlets can buy wholesale gasoline. I think we have a very incomplete understanding of how those relationships work, and it is critical to develop more knowledge in this area. It is clear that the refining sector in California is quite concentrated, with two firms now each producing about one-quarter of California's gasoline, but it is less clear how that concentration might impact downstream competition.

I don't claim to know exactly what the problem is in the sectors, or what policies would help reduce the mystery gasoline surcharge. And I recognize the potential for unintended consequences from regulatory intervention. That's why I very much hope this committee will apply the expertise and resources needed to give us a better understanding of the industry and the barriers to reducing the surcharge.

As I said earlier, I also hope that the committee will not be distracted by simple comparisons or arguments that don't focus on California's unique gas price problem and are unlikely to be relevant to establishing policies that help bring down California prices.

In particular, I would urge this committee:

- not to compare changes in the price of gasoline to the economy-wide rate of inflation. Commodity prices in general, and oil prices in particular, move up and down all the time as a function of supply and demand. The great majority of these movements are disconnected from the economy-wide rate of inflation. Oil is the primary input to gasoline, so it is no surprise that gasoline prices might go up much faster than inflation over some periods of time. Claims that this is indication of nefarious behavior are so easy for the industry to rebut that I suspect some welcome such accusations rather than having to discuss more difficult issues like the mystery gasoline surcharge.
- not to focus on the high profits oil companies are currently reporting. Like the comparison to inflation, this is an easy argument for the industry to slap away. They are in the business of producing oil and the price of oil has gone way up, so they are making huge profits in that business. US oil companies do not have large market shares in the world oil market and there is little or no evidence that they can significantly affect prices. They are not causing the high oil prices. They are just lucky beneficiaries of them, like an individual who buys a house and finds they can sell it for a much higher price a few years later when the housing market is hot.
- not to expect that gasoline prices will move in lockstep with oil prices and not to be surprised when they occasionally move in opposite directions. Gasoline prices do generally follow oil prices up and down, but with a lag. I and other researchers have shown that lag is typically longer for oil price declines than for oil price increases, a phenomenon that has been found in gasoline markets throughout the world, and in many other commodity markets. Given these lags, it is not surprising that at times gas prices will rise even when oil prices are simultaneously falling. These phenomena have not been shown to be associated with significantly less competitive markets.

I hope this testimony is helpful to the committee. Please feel free to reach out to me if you think

that further input from me would be useful. I have written a number of blog posts on gasoline prices and the mystery gasoline surcharge over the last few years. Here are links to them:

<https://energyathaas.wordpress.com/2022/05/02/whats-the-matter-with-gasoline-prices/>

<https://energyathaas.wordpress.com/2021/11/29/is-gasoline-becoming-unaffordable/>

<https://energyathaas.wordpress.com/2018/10/15/trying-to-unpack-californias-mystery-gasoline-surcharge/>

<https://energyathaas.wordpress.com/2020/05/18/petro-questions-and-some-answers/>

<https://energyathaas.wordpress.com/2020/02/10/californias-mystery-gasoline-surcharge-strikes-back/>

<https://energyathaas.wordpress.com/2019/05/20/the-mystery-gasoline-surcharge-gets-some-respect/>

<https://energyathaas.wordpress.com/2018/10/15/trying-to-unpack-californias-mystery-gasoline-surcharge/>

<https://energyathaas.wordpress.com/2018/02/26/californias-mystery-gasoline-surcharge-continues/>

<https://energyathaas.wordpress.com/2017/10/30/californias-real-gasoline-tax-problems/>