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GASOLINE SUMMER OUTLOOK WORKSHOP

TRANSCRIPT OF PROCEEDINGS

HYBRID VIA IN-PERSON AND ZOOM

THURSDAY, JUNE 6, 2024

9:00 A.M.

Reported by:

Martha Nelson

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P R O C E E D I N G S

9:05 a.m.

THURSDAY, JUNE 6, 2024

MR. SMITH: So good morning, everyone, and thank you for joining this California Energy Commission workshop. My name is Jeremy Smith. I'm a Deputy Director of the Energy Assessments Division. Today's topic is the 2024 Gasoline Summer Outlook.

Before we get started, I'd just like to share some housekeeping items with everyone.

First, please be aware this meeting is being recorded.

Second, we welcome and appreciate your feedback. We have time allotted for public comment at the end of the presentations.

We also welcome written comments, which are due by 5:00 p.m. on June 20th. We'll have slides with instructions on how to provide written and oral comments later in the presentation.

For in-person attendees, restrooms are outside the auditorium, go under the stairs and to the right. If there's an emergency and we need to evacuate the building, please follow the staff to Roosevelt Park, which is the cross the street diagonal to the building.

Senate Bill X1-2 was signed by Governor Newsom in

March, 2023 and took effect last June. The law was designed to protect Californians from experiencing price gouging at the pump by oil companies. Among other things, the law provided the CEC with the authority to collect additional data from the petroleum industry to better understand the causes of price spikes and provide the necessary facts to develop policies that prevent Californians from overpaying at the pump.

The purpose of today's workshop is to provide an overview of gasoline supply, demand, and price trends as we head into summer. We will present new tools that were developed to better understand the factors that cause price spikes. We will present an outlook of gasoline supplies for 2024 and DPMO will present their observations on the relationship between refinery maintenance and gasoline prices.

This is the agenda for today's workshop. We'll start with opening comments from the dais. We're joined today by Vice Chair Gunda of the California Energy Commission and Tai Milder, Director of the Division of Petroleum Market Oversight. We have two staff presentations, one from myself and then one from Dr. Moreno, chief economist from the DPMO. And then we'll wrap up with comments from the dais and public comments before adjourning.

With that, I'll hand it over to Vice Chair Gunda.

VICE CHAIR GUNDA: Good morning, everybody. Thank you so much, Jeremy, for getting us started there.

I want to just begin by thanking everybody who is in attendance today for the time that you take to provide input and track and, you know, help us do the job of SB X1-2 as well as we can.

I particularly want to thank the staff at CEC, both the staff from DPMO, as well as the EAD, Energy Assessments Division, where much of the work is happening, for the dedication over the last 9 to 12 months in really trying to dig in to the problem of the price spikes and figuring out both the solutions in the near term, long term, and, you know, trying to implement them as quickly as they can.

As Jeremy mentioned, today's workshop is primarily focused on setting the stage of what the outlook for the summer looks like. It's really a summary of the findings of the last nine months of work and trying to figure it out and trying to start the process of having some semblance of the near future outlook.

So much of this work is dependent on the data we gather. So I want to thank the industry for their collaboration and openness in providing the information that we have been collecting to keep the work moving

forward.

Specifically to the pilot team, I said it at an oversight hearing recently, I recognize that the CEC staff have spent, I think almost 15,000 hours, if I'm not wrong, over the last 9 to 12 months to gather the information, clean it up and put it out for consumption. For those who work in data, I recognize, 90 percent of the work in data gathering is really cleaning the information and making sure it's aligned and it's consistent and has good integrity. So really want to commend the staff at both CEC and DPML for the work that they have been doing.

I want to just a stage at a high level in terms of the California's climate agenda and the importance of reliability and affordability as we move forward.

As Governor Newsom set the stage, as he started his governorship was really thinking about four broad themes, which is clean, reliable, affordable, and equitable energy system. You know, we have been doing a lot on the clean. And given the climate agenda for California primarily being electrification, much of the work on clean has been to both electrify and simultaneously clean the grid.

So as most of you joining today know, we have crossed the 60 percent threshold on the clean electricity system and things are looking good. But over the last

couple of years and on the second two pieces, which is the reliability and affordability, on all three energy sectors that we talk about, natural gas, petroleum and electricity has been difficult for different reasons, and it is important. And it's a primary focus for the state agencies to ensure that this path is going to be reliable and affordable, and finally, one of the most important pieces is equitable, that all Californians see the benefit of this transition equally, and benefit from this, you know, for the future generations.

So overall, the work that this group is doing is critical for California's transition. It's critical to create consumer confidence. It's critical to provide trust in the agencies that we can do work that, you know, ultimately protects the consumers, and that's the spirit of SB X1-2.

So I am looking forward to this conversation today, putting more information out there. In the best form, CEC, you know, from my vantage point is a trustworthy partner in information and objective partner in policy options. And that's what I'm proud of CEC doing over the last nine months with the help of DPMO.

And with that, I would welcome the Director Milder to provide his opening comments.

DIRECTOR MILDER:: Thank you so much, Vice Chair.

Credits to the Vice Chair. And I want to echo his comments to CEC staff and DPMO staff. It's especially gratifying to see DPMO staff here today, many of whom are in the auditorium. This new division is nearly fully staffed, which is exciting at this point in time, at this critical juncture going into the summer.

I think for the workshop today, what's really exciting is that we're seeing new data transparency tools being deployed for information that we and the public haven't had before. DPMO's mission is to protect consumers, and so I'm going to be listening for three sort of different focus areas in the presentations today.

Does this new data shed light on what the drivers are for price spikes? And if so, what does the state need to do with that new information?

Can we see how industry's choices regarding maintenance, for example, might impact supply conditions?

And then can we also have visibility into what happens to consumers during price spikes? Where does that money go? And that's a critical question, I think, as we listen to the presentation.

With that, I'll pause and say that we're looking forward to both presentations and thank you so much.

VICE CHAIR GUNDA: Thank you.

Back to you, Jeremy.

MR. SMITH: All right, thank you, Vice Chair and Director Milder.

I'd like to start by talking about the data collection and monitoring activities that the Energy Assessments Division has been conducting.

SB X1-2 provided the CEC with the authority to collect new data from the petroleum industry to better understand the causes of gasoline price spikes. We've created nine new or revised reporting streams, including spot market transactions, refiner margins, marine imports, and the timing and impact of refinery maintenance events. Those last two are especially critical to assessing near-term gasoline supply conditions.

The CEC is analyzing these data streams to inform several implementation activities and improve transparency into the transportation and fuels market. We've processed over 10,000 data files since our new data submission portal launched in June last year.

We've also made substantial efforts to improve transparency through reporting, including posting monthly refiner margins data and weekly gas price breakdowns on our website, in addition to multiple workshops.

I'd like to remind everyone of the recent trends in gasoline prices. This chart shows the average retail price of gasoline in California in green, the U.S. average

price in red, and the difference between those two averages in blue from January of 2019 to today. Californians experienced historically high prices of the pump in early October 2022, nearing $6.50 a gallon. Unfortunately, this pattern repeated in late Summer 2023 with prices exceeding $6.00 per gallon.

There are factors that influence gas prices across the United States, namely the cost of crude oil. However, when we observe spikes in the difference between the California and U.S. price above $2.00 a gallon, which are highlighted in the yellow boxes, we recognize this to be caused by factors isolated to California. This is why the legislature tasked the CEC with collecting additional data to explore the underlying causes of price spikes and design tools to prevent this pattern from repeating again.

There are four primary factors that lead to differences between the price of gasoline in California and the rest of the United States. First is gasoline demand, that's how much motor vehicle gasoline is purchased in the state. Second is refinery production, how much car gasoline is produced locally in California by nine refineries. Third is marine imports. That's the volume of foreign and domestic gasoline brought in by ship. Fourth is gasoline inventories. This is the amount of slack in the system available to absorb disruptions in supply.

This slide shows the inputs and outputs of CARBOB on a typical day in California. CARBOB stands California reformulated blend stock for oxygen at blending, which is the special reformulated gasoline product produced to meet California's emission standards. This does not include the volume of ethanol added to create the finished gasoline purchased at retail stations.

In this example, the system is perfectly balanced, but in reality, supply goes through periods of surplus, typically in the winter when demand is lower, and deficits, typically in the summer when demand is higher. The balance is managed by large refinery and terminal storage tanks throughout the state.

On the left in this slide are the inputs. Local refineries process crude to produce roughly 750,000 barrels of CARBOB each day, which combined with the roughly 45,000 barrels per day of imports, supplies California's demand, shown on the right, of about 795,000 barrels.

Now, before describing what's in this chart, I'd just like to step through the components shown as the upcoming slides, we'll reuse this format just to allow to show annual trends of the different supply components.

First, the annual trends presented today all start ten years ago in 2014. The black line shows the annual average for each metric. The colored bars represent

the range of monthly values observed that year, or the amount of variation. The bottom of the bar is the minimum value, and the top of the bar is the maximum value. Taller bars signify there was more variation in the data, whereas shorter bars, meaning the data were clustered closer to the average or less variation.

The different colors represent distinct time periods. 2014 through 2019 are colored blue. This is the period before the COVID-19 pandemic for which we observe substantially different supply and demand trends. 2020 was in many ways an outlier to gasoline supply and demand trends, and thus is colored gray, both to represent the break between the pre- and post-pandemic periods, as well as signify these data are mostly ignored in the observations we're presenting today. 2021 through 2023 are shown in green for both the annual trends as well as the seasonal trends, which we'll look at on the next slide.

Finally, make note of the left axis. The metrics presented are shown in thousands of barrels of CARBOB. If you'd like to convert any of the metrics from barrels of CARBOB to gallons of finished gasoline, you can simply multiply by 46.7. In some cases, such as the one here, the axis does not start at zero, just to zoom in for a better view of the trends. These charts will show an arrow in the bottom corner just as a reminder.

Now on to the demand trends. CARBOB demand from 2014 to 2019 averaged 895,000 barrels per day. The annual average peaked in 2017 at around 914,000. The average daily CARBOB demand from 2021 to 2023 was 802,000 barrels, a decrease of about ten percent. The lowest average was last year, 2023, at 796,000 barrels per day.

Another observation is that the average demand has dropped by about one percent each year from 2021 to 2023 due to population decline, increase in electric vehicle sales, and other factors. If this trend continues, 2024 demand would average around 782,000 barrels per day.

This chart shows the seasonal trend of CARBOB demand observed over the last three years, which were green on the last slide. Before diving in, I'd just like to discuss again how these seasonal trend charts are structured.

The 2021 through 2023 monthly average is again represented by the black line. The colored bars show the range observed, this time across the months in each of the three years. The dark green is June through September, just calling attention to the upcoming summer months for which we're focused on today. The red line shows the trend observed so far in 2024 for whatever data is available.

Gasoline demand is highest in the summer months. From 2021 to 2023, the June through September average was

around 823,000 barrels per day, four percent higher than the remaining months. So far in 2024, gasoline demand is tracking lower than the average observed over the previous three years. Again, that's shown in the red line.

As I mentioned earlier, gasoline demand in California has dropped about one percent each year for the last three years. If we apply that trend going forward, we could project the gasoline demand this summer. On this chart, projected gasoline demand is represented by the dotted red line. The gray bars just represent the minimum and maximum expected values if we apply that same variability that was observed in the data over the last three years. If this trend holds, summer CARBOB demand this year would be roughly 798,000 barrels per day.

Moving on now to gasoline supplies, starting with refinery production. This chart shows the car Bob production from 2014 through 2023. The average production during this pre-COVID era was about 862,000 barrels per day. In 2020, a refinery converted to producing renewable diesel, dropping the crude refining capacity in the state. From 2021 to 2023, production dropped about 12 percent to 758,000 barrels per day.

This chart shows the average daily refinery CARBOB production by month from January, 2021, through May of 2024. Production ramps up in the spring, peaking in

June. The average summer carbide production over the last three years was 766,000 barrels per day.

Looking at the 2024 trend so far, we see the drop in February due to another refinery conversion to renewable diesel production. This has resulted in an overall decrease in refining capacity of about five percent, which can be observed in the 2024 averages being below the previous three-year average.

VICE CHAIR GUNDA: Jeremy --

MR. SMITH: Yeah?

VICE CHAIR GUNDA: -- just a quick question. Kind of as we move forward, we'll just kind of interject for clarification or for record.

The last slide and the slide that you showed on the production, that includes the variability due to planned and unplanned maintenance as well?

MR. SMITH: Yes. So what we're looking at so far is all just what actually happened. So there were unplanned and planned maintenance events, and so these are included in these charts. All right.

If we project that five percent decrease compared to the last three years, we could estimate refinery production for this summer. Now this does not utilize any data the CEC has received on any refinery maintenance events this summer, as that information is confidential.

This projection simply assumes that refinery utilization rates, as the Vice Chair was just alluding to, to just match that of the last three years while also subtracting the five percent loss in refining capacity. If this trend plays out, summer CARBOB production would be about 728,000 barrels per day.

The last component of gasoline supply is marine imports. These figures represent the average daily volume of foreign and domestic gasoline imports, not including blending components. Blending components are not included as those are typically received by the refineries and show up through the production metrics as they're used.

This chart shows the annual average imports from 2014 to 2023. The average daily import rate from 2014 to 2019 was about 34,000 barrels per day. From 2021 to 2023, that increased 61 percent, averaging 55,000.

Looking at the monthly trends of marine imports over the last three years, we see somewhat at similar levels in the summer versus non-summer months. We do observe an increase from the beginning to the end of the summer. The average from June through September over the last three years was about 54,000 barrels per day.

Looking at the 2024 trend thus far, we see imports are on average about 23 percent higher than the last three years, particularly last month in May. This is

not too surprising that imports have increased since the refinery conversion in February. If we project that 23 percent increase throughout the rest of the summer, we might expect around 67,000 barrels per day of foreign and domestic gasoline imports this summer.

VICE CHAIR GUNDA: Jeremy, I also want to just, for the record and clarity, these import numbers are import of fuel coming from outside California?

MR. SMITH: Correct. Foreign and domestic imports of gasoline. And again, just extrapolating the observed trends that we've seen thus far. So this is not based on any real data that we've collected about incoming imports.

VICE CHAIR GUNDA: And at this point, CEC is not attempting to forecast, you're just using trends at this point?

MR. SMITH: Right, this is not, yeah, this is not a sophisticated forecast. This is just merely observing the, you know, trends. Has it gone up or down? And if we just continue that same trend forward, what would that estimate, you know, to be.

VICE CHAIR GUNDA: Thank you.

MR. SMITH: All right, as I mentioned earlier, gasoline inventories are used to balance the system, being drawn down whenever there is a supply deficit and filling

back up whenever there's a surplus. This chart shows the average annual inventory of reformulated gasoline in PADD 5. That's the West Coast district, which includes California, Oregon, Washington, Nevada, Arizona, Alaska, and Hawaii. In general, inventory levels have not changed much over the years, although we do see a slight increase in 2021 through 2023 compared to before 2020. However, we observe a downward trend in inventories over the last three years.

When we look at seasonal trends of gasoline inventories, we see buildup and overall higher levels outside of the summer months. We also observe inventory drawdown in the second half of summer as demand peaks. 2024 inventory levels so far are similar to recent years, just slightly below the average. We do note the April 2024 drop in inventories, which aligns with the increase in gasoline prices experienced that month. Inventories have since begun building back up and with it, we've seen a decrease in gasoline prices.

I also want to point out that September 2022 had the lowest observed inventory levels over this period, which also coincided with the price spike that approached $6.50 a gallon.

Again, this is not a sophisticated forecast, but if we just project out that two percent decline in ARBOP

inventory levels on the West Coast, we might expect stocks to follow the dotted red line shown here with a similar drawdown in the second half of summer as gasoline demand peaks.

This table summarizes the annual CARBOB supply and demand trends presented thus far. Comparing the 2014 to 2019 and 2021 to 2023 periods, we see the decline in refinery production of about 104,000 barrels per day. We also see an increase of about 21,000 barrels per day of gasoline imports. Finally, we see a decline in gasoline demand in California of about 93,000 barrels per day. Overall, all this results in a net increase in annual supply balance over the last three years compared to 2014 to 2019.

Of critical importance, however, are the trends we observe in late summer, as that has been the period in which we've experienced the greatest imbalance in supply and demand that can lead to price spikes. This table compares the average supply and demand from September in 2021 through 2023 to the projected values for 2024, again, based on recent trends. Once again, the projections are not based on any specific data on upcoming refinery maintenance events, incoming gasoline imports, confidential or proprietary data. These projections are simply carrying forward recently observed trends in the 2021 through 2023

timeframe.

There is significant variability in these estimates, and it is highly likely that one or more these projections are either too high or too low. The balance at the bottom of the table shows a negative number for both the 2021-23 and the projected 2024 September's. This simply means that demand exceeds supply and we would expect inventory levels to be drawn down in late summer as we saw in the previous slides. However, the observed trends do show the likelihood of there being less of a supply imbalance this year than in previous years due to increased rate of imports and reduced demand.

VICE CHAIR GUNDA: Jeremy, just want to make sure that we're hearing this right. So overall, when you look at -- I'm going to leave the inventories out for a second and just look at the imports and the in-state production, on an annual balance, we seem pretty well balanced. It comes to the situation where, you know, when you look at a critical peak month, the balance is off, and this points to the importance of having enough inventories.

MR. SMITH: That's exactly right. And so what I mean on an annual basis is that the infrastructure, the system that we have in place is sufficient to meet demand in California. But when you get to that critical time period when refinery production does not exceed demand, we

need an increased level of imports. That's where, again, those inventories being high to be able to be drawn down are really critical to preventing price spikes in late summer.

All right, with that, I'd now like to share some of the analysis tools that we've developed, thanks to the new data collected under SB X1-2.

This graph shows three different gasoline price trends from 2019 to today. The top dark blue line is the average daily retail price of gasoline in California, which we saw at the beginning of the presentation. This is the price consumers pay at the pump. We again see the price spike events highlighted in yellow.

But rather than comparing the price in California to the U.S. price, this time we see the average CARBOB spot market price in light blue. The spot market is where market participants buy and sell large volumes of petroleum products. The spot market price influences the cost of wholesale gasoline, which is then passed on to the price drivers pay at the pump. In short, when the spot market price spikes, retail prices spike soon after.

Finally, the green line towards the bottom represents the New York Mercantile Exchange, or NYMEX, RBOB price. The NYMEX is used as a basis for pricing CARBOB spot market transactions. This is called the price basis

differential, and it's really important. Essentially, this is the difference in the valuation of NYMEX RBOB and the CARBOB traded here in California.

When gasoline supplies are healthy, this differential could be $0.25 cents or less. The differential increases when supply conditions in California tighten. We observe this differential increasing, or when the light blue line separates from the green line, when we have experienced the price spikes in the past, which you can again see in those yellow boxes.

So if it's so important to observe the spot market price when understanding price spikes, then what are the normal drivers of the gasoline spot price?

First, simple supply and demand fundamentals play a key role in the spot market price, the same trends we looked at before, refinery production, foreign and domestic imports, and demand. Gasoline stocks play a key role, too, as they manage the imbalances in supply and demand. When supply exceeds demand, inventory levels increase. Vice versa, during a supply deficit, inventories are drawn down to meet demand.

And finally, when inventories are drawn down too far, there's little room to manage supply deficits. During these periods, market participants that are short on fuel bid up the price in the spot market to fulfill their

contractual obligations, causing price escalations.

I'm sure everyone here wanted to see an equation, so here you go. In order to better understand the supply conditions that lead to these price escalations, we worked with our consultants at ICF to develop a gasoline price model using a forward days of supply metric. Essentially, this is a way of taking the supply and demand data trends to measure market tightness. The slack in the system is referred to as days of supply, or DOS, representing the number of days of current demand that can be met with the available supply.

This equation shows how we calculate the days of supply metric. We take the most recent gasoline inventory levels and add the expected buildup or drawdown of inventories over the next few weeks. Then we divide that by the average daily demand to arrive at days of supply.

This slide shows how the expected supply balance is calculated. We take the average supply and demand balance over the last three weeks, sort of as a rolling average, which is the difference between refinery production and demand, then subtract any refinery outages, increases or decreases in imports or supply additions expected over the next two weeks. An example of a supply addition is the switch from summer to winter spec gasoline, which with the additional butane increases the effective

supply.

This table shows the data sources that were used to develop this model. We currently use PADD 5 RBOB stocks from the U.S. Energy Information Administration to represent gasoline inventories. We use California Gasoline Sales and the California Department of Tax and Fee Administration for demand. Refinery production and expected supply changes come from various CEC data collection efforts. And the California spot and NYMEX prices come from various market reporting entities.

If we fit a relationship between the forward days of supply metric and the spot market differential, we notice a strong correlation. The light blue and dark blue dots on this chart are the observed price spread versus the days of supply metric for the summer weeks in 2022 and 2023 respectively. Starting from the righthand side of the chart, as the days of supply metric falls the price spread to the NYMEX increases. There's a flat relationship down to an inflection point of around 15 days of supply. Below this point we see an exponential potential increase in the price spread as days of supply falls.

If we think about this more generally from a situational awareness perspective, so long as days of supply remain above 15, there is a low risk of price spikes. If days of supply drops to between 13.5 to 15,

we're nearing conditions that lead to price spikes. Once days of supply falls below 13.5, the price spread soars.

Another way of representing this is to look at the same Summer 2022 and Summer 2023 data, this time on the timeline. The light blue line on both charts represents the CARBOB versus NYMEX price spread in cents per gallon. That's the actual price spread.

There's a clear inverse relationship between these two metrics. As days of supply again drops below 14 or 15, we observe a sharp increase in that price spread. Notably, the days of supply metric dropped below 12 in summer of 2022 when we had the greatest price spike. The days of supply metric did not drop quite as low in 2023, and the price spread did not increase quite as high.

VICE CHAIR GUNDA: Jeremy, can I request a quick kind of explanation here?

I think you impressed upon me in some of the meetings we had, could you just talk about how the analytical framework that we have right now, you know, that has been developed kind of continues to normalize or changing demand and conditions, so you could still anchor some of the discussion on the days of supply because it's a normalized value? Could you just comment on that one?

MR. SMITH: Yeah, absolutely. That's why it's so critical that in that equation, we talked about how we

solve for days of supply. It's always divided by what current demand is. And so that days of supply metric allows us to go back in time, as far back as you want, take those refinery productions and import levels and inventories and divide by whatever demand was then, and we can learn from that.

And then we can also use the same approach as we continue forward, as demand continues to drop, as refinery production and imports change, as inventory levels change, that days of supply metric is consistent. That scale by which we -- you know, that comfort zone or what those levels need to be will be consistent. So the metric, the situational awareness will not change.

VICE CHAIR GUNDA: Yeah, just another follow-up question on that one.

So you kind of talked about potentially using the model to go all the way back to ten years and then continue to look at the fit. And one of the things I think I heard from you was you could begin to observe the temporal relationship of the DOS metric; right? So, you know, given the changing market conditions, has the inflection been happening at different times?

And so could you comment on, you know, what additional insights could be gathered over time, you know, with more and more information as we look back on the

system?

MR. SMITH: Yeah. I do have a slide actually coming up where I talk about all the different improvements that we're looking to make so that we can just gather even more information and better understanding of the underlying causes of price spikes and how price changes with these different supply and demand components.

But in short, I mean, when we look back at the history, we focused solely on periods where we experienced price spikes, namely 2019, 2022, and 2023, but the trends do still hold in the other years. And really what it comes down to is, again, we arrive at that 15 days of supply metric is always that point at which we see price increases go up. When we get below that number and when we're above 15, that tends to just be a flat, you know, relationship between the NYMEX price and we don't experience retail price spikes either.

VICE CHAIR GUNDA: Thank you. I'd just like one last clarifying thing. So given that, you know, not everybody uses the same equation, right, but I think what gives me comfort is there is an observable relationship to, you know, what happens in the marketplace; right?

So I'm guessing, you can add to this or maybe it's just a comment. So no matter, you know, whether the traders are looking at this information slightly

differently, you know, an industry player might be looking at differently, but everybody's trying to observe this relationship using different parameters and kind of seem to arrive at some decision-making process that continues to keep this relationship hold; is that accurate to say?

MR. SMITH: Yeah. What I'll say is, and I could go back to the equation, but it's just to speak to it broadly, I mean, the inventory component of the days of supply metric is by far the greatest influence.

I mean, just for rough numbers, I mean, if inventory levels in the PADD 5 that we observed looking at this are in the order of like, you know, 13 and a half million or something like that, and then you remember the numbers I'm talking about, supply and demand balances are in the hundreds of thousands or at least under 1 million, clearly the 13 million portion of that is going to have a really big influence. And when we talk to other market participants in the industry, I mean, they essentially just look at what inventory levels are, and that's a really good indication.

The only reason we go a little bit further is all the new data that we are collecting allows us to refine it just a little bit more, have a little bit more forward visibility, but also understand how much those other factors besides just inventory influence the price. So,

you know, it's just, again, part of trying to learn and expand our understanding of what causes price spikes.

All right, so if we use the model, this days of supply model, to back cast the spot price spreads, we can see how accurately the days of supply metric, looking at recent and upcoming supply and demand balances, predicts the actual price spread.

In these charts, the solid light blue line is, again, the actual observed price spread between the California spot market price and the NYMEX price, while the dotted line is the model predicted price spread using the days of supply metric. We observe a close correlation between the actual and predicted price with this model.

The main exception is in the chart to the right. In September of 2023, the model predicted a price spike earlier than it actually occurred due to reduced inventory levels in Arizona, an unfortunate result of using PADD 5 inventories rather than California-specific stocks. But I'll talk to upcoming improvements to the model in just a minute.

We're planning to incorporate several advancements to the gasoline price model to improve its predictive capabilities.

First, as I just said, we plan to replace the EIA PADD 5 inventory data with weekly California refinery and

terminal storage inventories to hone in much more specifically on California.

We recently adopted new marine imports reporting requirements and we'll incorporate that data to improve future visibility. We're working to resolve the gap in reporting of gasoline sales that represents our demand component by calculating the weekly apparent demand. This is essentially using the weekly refinery production, the imports, and inventory increase or decrease to then just simply estimate what weekly demand was.

Finally, we're planning to develop separate models for northern and southern California, as well as for summer and non-summer months, even outside of price spike events.

All right, so next I'd like to combine the recent supply and demand trends and the 2024 projections with the days of supply modeling to discuss how the summer supply outlook could look like.

This chart shows the average annual forward days of supply metric for 2014 to 2023. Perhaps surprising is the fact that the average days of supply metric is higher in 2021 to 2023 at 17.3 than it was in 2014 to 2019 at 14.8. And this is just an annual average. While the refinery production has decreased, the combination of increased marine imports and lower gasoline demand as

elevated days of supply.

We've run preliminary tests of this model in other PADD districts and found PADD 5, and California specifically, tend to have higher average days of supply metrics. Higher inventories relative to demand could be strategic due to the limited number of refineries, the lack of significant third-party storage, and pipeline distribution hubs compared to the Eastern half of the United States. Days of supply are similarly high in PADD 4, which also lacks major logistics hubs.

Looking now at the days of supply trend by month for the last three years, we see a trend very similar to the gasoline stocks. Again, as we talked about inventories being just the greatest influence of the days of supply metric, we see higher days to supply levels in the non-summer months and drawn down in late summer, and then again rebuilding in winter.

You can also see in purple text, the days of supply metric that was calculated for Summer 2021, 2022, and 2023. So that's '22 at the bottom at 12.6. Just slightly above that is September 2023 at 13.1. And then all the way up at the top there is September 2021 at 17.7. That summer, we did not have a price spike.

Notably, the days of supply metric is very low. The last two years we experienced price spikes, as I said,

and then much higher when we do not. Also note in the 2024 trend thus far, represented by the red line, that the days of supply metric dropped to 14.8 in April of this year when we experienced a significant price elevation for many weeks. Prices have since dropped, which align with the higher days of supply seen in May.

VICE CHAIR GUNDA: Jeremy, can I just kind of ask for a clarification, if we can go back to the previous slide? And I think it took me a little bit, you know, to kind of completely internalize this, so I think it'd be helpful for the public and the stakeholders who are listening.

So on an annual basis overall, there has been a trend to double up higher inventories in certain months. So you see an average over the year pulled up. But that pull-up is not consistent with the actual needs of the system on a monthly basis. And so the next chart that you have kind of shows that we have elevated days of supply in some months, which is bringing the annual average up, that the days of supply metric is actually falling below just as the demand is peaking.

MR. SMITH: That's right.

VICE CHAIR GUNDA: But could you just kind of, you know, emphasize that? I think that's helpful for everybody to kind of have that awareness as the market, you

know, tries to think through the setups, yeah.

MR. SMITH: Yeah, absolutely. I mean, it's really difficult to just look at the annual number because it really doesn't fall at that level very often. It's really, the winter months were above that and then the summer months were below that and then it just averages out to be somewhere in the middle. We really don't spend very long throughout the year at that 17.3.

And that's the critical piece is that we can be at 17.3 or we could be at 25 and we're all in territories that we would avoid price spikes. But if we can't hold days of supply that high, like we do in the winter months, as we head into summer, then we get into that tightness, you know, market tightness that leads to price spikes.

And so that's why we see, you know, in the last three years that I show on this chart, right, we start at 24, 25, even though the average is 17. But as we dip, that number just continues to go down later and later into the summer, as we rely on inventories to, you know, make up the difference, that deficit we have in supply. And so we continually drop down below nearing that, you know, 14, 15 consistently by the end of summer, and then again rise back up again afterwards.

Again, if you can think, you know, conceptually, days supply is really just a slightly more sophisticated

way of estimating the impact that inventories have on price, as that really is the major driver, the component in that metric. Okay.

All right, so if we use the projected supply and demand trends for the Summer 2024 that I've presented earlier, we can estimate the days of supply metric for this summer. Once again, I'd like to point out that these projections are based solely on extrapolating recently observed trends and are not based on any upcoming refinery production, imports, confidential or proprietary data. This is simply an assessment of how the supply and demand balance currently observed compares to that of recent years.

If these trends continue, we believe the days of supply metric will be somewhere around 15.0 in September of 2024. We can't say or predict with much certainty that we will not experience a price spike this summer due to other factors, including unplanned refinery maintenance, increasing crude oil prices, or really anything else.

All right, with that, I'd just like to close out my presentation by discussing one final topic and that's gasoline inventory programs.

As I pointed out, you know, the inventory levels are really critical at keeping the days of supply metric high. And so that's a really natural place to start when

we look at, you know, preventing price spikes.

So again, recognizing just how critical it is to maintain a sufficient days of supply or slack in the system, to preventing price spikes, the CEC is investigating ways to maintain higher inventory levels in the state. Naturally, we've looked at other countries that have implemented similar programs to see how those have been implemented.

For example, EU countries must maintain emergency stocks of crude oil and petroleum products equal to at least 90 days of net imports or 61 days of consumption, whichever is higher. Germany's Petroleum Stockpiling Association keeps reserves of roughly 60 percent crude oil and 40 percent finished petroleum products to meet that metric. The UK also has a petroleum reserve program that requires inventories of 22 days of supply be held. The UK does not have a nation-owned inventory system, but rather imposes inventory obligations on commercial entities.

Again, we'd just like to observe how other programs have been implemented and consider those as ways that we might help shape a program to help prevent price spikes here just through increasing slack in the system.

All right, so that concludes my presentation. I'd just like to thank the staff of the Transportation Fuels Market Unit and the Energy Assessments Division for

all their hard work supporting our data collection and analysis efforts. I'd also like to thank ICF for their support in developing the gasoline price model.

With that, I'd like to introduce our next presenter, Dr. Gigi Moreno, Chief Economist of the Division of Petroleum Market Oversight who's joining us today on Zoom.

VICE CHAIR GUNDA: Thanks, Jeremy.

Before we have Dr. Moreno kind of jump in, I just want to say I'm incredibly grateful I am for the work that has been done. Thank you for your leadership, Aleecia's leadership. And I know how hard the staff are working behind the scenes. I see some of them here, not going to name names, but just, you know, just a big thank you.

As we get into this, and I think I want to continue to remind ourselves about some core objectives that, you know, Director Milder mentioned, that the core of all this is to ensure that we're protecting the consumers. And there is nothing more helpful than transparency. And I remember two years ago when we were having the price spikes and we were asked, can you explain what's going on, and there was really nothing that we could offer. And the expertise that Director Milder brought, especially with his years of experience and how we're able to lean on that expertise, and just the data and that ability to build up

these resources, and as definitely to both the consultants ICF and Stillwater for their help, Dr. Zaragoza-Watkins, who has been helping us.

But also I just want to say, thanks to the industry to the extent that you're able to help provide this visibility, it's incredibly helpful for us.

So thank you to everybody for the work and look forward to Dr. Moreno's presentation.

And I would just want to observe on the Zoom, you can see chats, the team chats, if you could just keep that off. Thank you.

MR. SMITH: Dr. Moreno, over to you.

DR. MORENO: Great, thank you. All right, can everyone see my screen? Wonderful.

Good morning, everyone. My name is Gigi Moreno, and I am the Chief Economist at the Division of Petroleum Market Oversight at the California Energy Commission. Thank you for being here today.

Jeremy talked about the drivers of gasoline prices. Today, I will focus specifically on the relationship between planned maintenance, gasoline production and prices. Today I will review the SB X1-2 transparency tools. Using the data we've been collecting over the past nine months or so, I will share a retrospective of the 2023 gasoline market. I will then

share insights about the preliminary data we have gathered under SB X1-2.

Before I jump into the meat of my presentation, I recognize that I'm new to the state scene and I would like to properly introduce myself. I started at DPMO about three months ago, and prior to that I was a senior economist at the Southern California Association of Governments. I have a PhD in Agricultural and Natural Resource Economics from UC Berkeley. And my experience spans three key areas underlying DPMO's mission.

I worked in the private sector for about 15 years where I focused on understanding firm behavior and using statistical and economic tools to measure market behavior and outcomes. In fact, I worked on several consulting engagements on behalf of petroleum industry organizations such as Exxon and WSPA.

I also have experience in academia where I taught environmental economics and applied econometrics, and I researched water resource reliability and climate change mitigation policy. In my public sector and policy experience, I have focused on developing equitable regional economic growth strategies and measuring transportation policy impacts on communities and local businesses.

This experience gives me a well-rounded view of the challenges we face in our transition to a low-carbon

economy and the strategies for protecting consumers, businesses, and our economic growth.

On a more personal level, I am based in Southern California and I do spend most of my time, my free time, with my two boys. I have a little guy, and he's an aspiring hockey star. And I do have an adult son who is currently using his economics degree to save lives in Ukraine.

So now that you know a little bit about me, I would like to share with you some of the things we have learned with the data we've been collecting.

As of March 2024, California refineries had crude refining capacity of about 1.5 million barrels per day. The top four firms in our industry controls 90 percent of refining capacity. In economic terms, we say that the four-firm concentration ratio in California's refining sector is 90 percent. So California's refining sector is a highly concentrated market.

An industry is generally considered competitive when the top four firms control at most 40 percent of industry production. Now for comparison, in the rest of the U.S., that is excluding California refining, the patrolling refining industry four-firm concentration ratio was 46 percent in 2023, the latest year the data are available. So a four-firm concentration ratio of 90

percent means that firms in this sector have market power. In such highly concentrated industries, firms are more likely to exercise that market power and influence price.

Highly concentrated industries have a high risk of coordination and collusion. Just all the incentives are in place for that. The petroleum industry in California needs active oversight to promote competition and to protect consumers, as is the case in other highly concentrated markets, such as telecommunications, airlines, pharmaceuticals, and utilities.

In an increasingly concentrated market, decisions about reduced refinery output will have a bigger impact on prices. and understanding the effects of planned maintenance is important because refiners control the timing of maintenance and the magnitude of the resulting reduction in supply of gasoline.

SB X1-2 authorized the California Energy Commission to collect data from refiners about their maintenance and the resulting supply disruptions. Since about mid-2023 the CEC has collected this new maintenance data, which will help us understand the relationship between refinery maintenance and prices.

(Clears throat.) Excuse me.

In 2023, refiners chose to conduct plant maintenance during the summer CARBOB season. As Jeremy

explained, that is when there is lower production capacity than in the winter months, the winter CARBOB season. And during the summer months gasoline demand is at its peak and we're more likely to see price spikes due to the already tight summer supplies.

As we have learned from the new data collection efforts, the industry provided little supplies from outside California to mitigate the impacts of reduced gasoline production during planned maintenance.

And I apologize with the noise in the background. I didn't realize there would be gardening work done while I'm presenting.

So planning maintenance during the summer CARBOB season contributes to supply disruptions and price volatility. Constrained supplies and price volatility not only create a significant burden for consumers and businesses dependent on transportation fuels, but also makes the market more susceptible to manipulation. In general, a highly concentrated industry with constrained supplies, high volatility provides fertile ground for market participants to discreetly manipulate supplies and prices.

As this industry becomes more concentrated, the market becomes more sensitive to decisions to intentionally restrict supply through planned maintenance. Under

SB X1-2, CEC started collecting data from refiners, and these data will help us understand and assess whether the supply constraints are due to true resource scarcity or actions controlled by market participants.

So let's focus on the maintenance outage data collected from refiners. The CEC asks refiners to provide information about the timing of maintenance and the impact on supplies due to maintenance events.

We also collect information about resupply plans for the planned loss production. So it is important to distinguish between the supplemental supplies from imports to the state and the in-state supplemental supplies. While some refiners may resupply their own shortages by purchasing from other in-state sources, this does not change the supply constraints created by planned maintenance. In-state resupply simply moves supplies from one refiner to the other leaving the constrained state level supplies unchanged. Imported resupply has a real increase in supply and mitigates the supply constraints from the plan maintenance.

So we are using the new transparency tools authorized by SB X1-2 to better understand factors refiners control.

Next, I would like to share with you some observations from data we've collected in the past year.

The data I discuss today are preliminary and based on industry submissions. I would also like to emphasize that the data relied on were aggregated and anonymized and are about the industry as a whole and not about any specific market participant.

I'm going to pause for a second, and I'm going to try to see if I can mitigate the noise that's in the background. Hold on.

DIRECTOR MILDER: Dr. Moreno, as you're doing that, we're actually not picking up very much noise here from your audio.

DR. MORENO: All right. Sorry about that. Okay. So I shall continue.

DIRECTOR MILDER: Yeah, just -- Dr. Moreno, you may have stepped away as I noted this. Here in the auditorium, we're not hearing background noise --

DR. MORENO: Okay.

DIRECTOR MILDER: -- so it's not really a major concern from our perspective.

DR. MORENO: Okay. Great. Thank you very much. So I'll relax about that. All right, I guess Thursday's gardening day.

All right, so now let's recall what happened in the retail gasoline market and hopefully it doesn't traumatize anyone in here. So let's recall what happened

in the retail gasoline market in 2023.

So this chart plots the average daily price per gallon for gasoline from January 1st to December 31st, 2023. We see that from about April to July, prices fluctuated a little bit, that's normal, but were generally stable. Between April 1st and July 24th, the average summer CARBOB price was $4.86 per gallon. At the end of July, prices started climbing, and they climbed for 70 days to a peak of over $6.00 per gallon, a peak for the year. And it's also a historical high.

Now, in late September, Governor Newsom authorized an early switch to the winter CARBOB blend and we then observed prices falling slowly. Prices remained elevated for an additional 35 days until they returned to historical trends around $4.50 per gallon.

Now, let's explore the supply impacts of planned maintenance in the second half of 2023.

So between June 27th and December 23, when CEC started collecting maintenance data, refiners reported an aggregate loss of 322 million gallons of gasoline production to plan maintenance. And they also reported, refiners also reported on aggregate, 58, almost 59 million gallons of supplemental supply, so a much smaller supplemental amount of gasoline. The net effect of the planned maintenance was a loss of 263 million gallons of

gasoline, or approximately a week's worth of gasoline consumed during the summer in the entire state of California.

How did this reduction in supplies lead to a price spike at the pump?

The gasoline spot market plays an important role in determining the price of the pump. The spot price for gasoline is the basis for pricing downstream in this industry and therefore impacts a large volume of sales statewide at bulk, rack, and retail levels, and wholesale to retail contracts may be indexed to the spot price. This in turn determines the price of the pump.

So when spot markets are operating properly, they provide a signal about current supply and demand conditions for delivery-ready fuel. And when I talk about properly operating or well-functioning spot markets, what I'm referring to is a market that exhibits qualities of a competitive market that is no market power, many supply, many buyers and sellers, complete information, no externalities.

So this chart shows the Los Angeles-New York spot price differential between June and October of 2023. Between June and late July, the spot price fluctuated. But then in early August, when planned maintenance was expected to start, we see an increase in the price. The spot price

continues to shoot up and continues this steep ascent.

And in a well-functioning market, this price increase should signal to suppliers to produce or import more fuel. This appears to not be reflected here as we observe this price to continue to increase and to continue to spike even after planned maintenance had started, which suggests that this spot market may be -- may not be -- may be signaling in a distorted way.

Now in September 2022 -- I'm sorry, On September 22nd, 2023, in a public letter to Governor Newsom, DPMO called out an irregular spot market transaction and noted that spot prices remained elevated despite there being no new trades. After DPMO engaged with market participants, the market started to stabilize, but then increased again.

Now, on September 27th, Governor Newsom authorized an early switch to winter CARBOB. We then observe a precipitous drop in prices, and this is consistent with an instantaneous increase in supplies due to the switch to winter blend, as Jeremy explained.

California gasoline spot markets are thinly traded with few participants. We observed here in 2023 a single trade that led to a painful price spike and elevated prices for extended periods of time. This market needs oversight to ensure that we have market integrity and to protect against manipulation that ultimately harms

consumers and businesses that rely on transportation fuels.

So now let's focus on September 2023. The retail price spike centered in the month of September, and this was driven in part by the planned maintenance via the spot market the way I explained in my previous slide. But, of course, other factors were in play, including unplanned maintenance.

Now, planned maintenance during the summer months when CARBOB's supply is lower and demand for fuel is at its peak is not a good time to have lost capacity, but this is what we observed in this market. In September alone, planned maintenance resulted in a loss of 65 million gallons of gasoline. Refineries reported 4.6 million gallons of supplemental imports. And we ended up with a net loss of gasoline of about 60 million gallons or about two days of gasoline supply.

This type of shorted market creates conditions where opportunistic traders will try to artificially inflate prices, something that we have observed in the California market on multiple occasions before during maintenance. And this time, this this sort of thing appears to be happening as well.

So how did this September -- this price spike in '23 affect refiners retailers and consumers?

In this chart I have plotted the spot price, the

L.A. spot price, the retail price, the daily retail price, and the refinery margins for 2023. And the refinery margins that I'm representing as a percent change relative to the 2012-2014 benchmark after controlling for inflation. So we observe that the refinery margins, the change in refinery margins, spiked as the spot price and the retail price spiked. So we can say that refiners enjoyed elevated margins as the price went up.

Now, let's look at the retail market, the retailer's margins. Here I plot the retail -- the change in retail margins relative to the 2012-2014 benchmark after controlling for inflation, and we see that retail margins increased by 203 percent in October. And so we see here that retail margins increased even after the spot market prices had stabilized. And we also see that retail prices had remained elevated even after the spot market prices had stabilized. Now, this is an example of the up like a rocket, down like a feather phenomenon. And we can say that retailers enjoyed elevated margins as prices went down.

So let's look at the components of a price increase. And so we can break down the components of a price increase, and let's look at an example, an illustration between July 24th, before the beginning of the price spike, and the peak of the spot market price around

September 25th. And in this chart, I used the average weekly gasoline price reported by the Energy Information Administration.

So on July 24th, the average weekly retail price was $4.70. On September 25th, when the spot market had peaked, the average retail price was $5.66. So it's about $0.96 increase per gallon, or about 20 percent increase between these two dates. So between these two dates, the retail margin increased by $0.07 per gallon. Environmental programs increased by $0.03 cents per gallon and taxes increased by $0.02 per gallon between these two dates.

The cost of crude oil between these two dates did increase about $0.23 per gallon, which is a relatively large increase, but now we've only accounted for $0.35 of the increase, of the $0.96 increase in the price of gasoline. Refiner margins increased by $0.62 between these two dates. And the increase in the refinery margins it make up the largest component of this $0.96 increase. So it is not state taxes or environmental fees that drove up the price during this time period.

So we saw that gasoline prices increased. As gasoline prices increased, the average refining margin spiked. As gasoline prices slowly decreased, retail margins spiked. But consumers were hurt by rapidly increasing prices as prices climbed, but they were also

hurt by elevated prices as they slowly stabilized. And consumers faced these increasing prices for 70 days, and then they faced elevated prices for 35 days, so that's 105 days of excessive prices.

Based on summer gasoline demand data from CARB, we can estimate that for every $0.10 per day increase in gasoline prices, California consumers face an increased burden of $4 million per day at the pump. So that's a burden on consumers from these price spikes.

So now I'd like to wrap up and go over some takeaways.

Planned maintenance in the second half of 2023 reduced supply by over 260 million gallons, with over 60 million of those lost gallons in September 2023 alone. By decreasing supplies, planned maintenance could increase price volatility, which makes this market that's already a tight market more susceptible to opportunistic and potentially illegal trading.

Market concentration likely magnified the impacts of planned maintenance. It wasn't the only cause, and it wasn't the only factor going into this price spike, but it certainly magnified it.

Responsible resupply plans going forward are going to be critical for maintaining price stability during maintenance events.

Thank you very much. And if you're interested, I've included the sources of my data in the final slide of my deck.

DIRECTOR MILDER: Dr. Moreno, I just wanted to say thank you for this presentation, really addressed some critical issues with great clarity.

I want to also say just on a personal note, appreciate the introduction and learning a bit more about you. And really want to credit this work and the fact that you've been in this position only a short number of months, and you're hiring and building this Economics Team on behalf of DPMO is just really impressive work to help consumers understand what's happening in the market and to look back at the price spike last year with these new tools. This is an urgent project and appreciate the fact that you've addressed it so quickly, so thank you.

DR. MORENO: Thank you.

VICE CHAIR GUNDA: Yeah, Dr. Moreno, I just wanted to second Director Milder's comments. You know, just really appreciate the thoughtful kind of thinking the flow chart. I mean, that's kind of how my brain works, you know, it's like, you know, how do you take the data and how do you construct and deconstruct that in a way that it's simple, but, you know, impactful in our ability to understand the details better, so really appreciate.

And I also appreciate your continued collaboration with the CEC side and sharing your expertise and your insights and improving the analytical work that we do as well.

So really overall, a huge sense of appreciation to you and the DPMO team. And I'm really glad to see the entire -- I'm put to shame because the CEC team is not sitting here. We have some in the back, but this is great. Thank you so much for being here.

I also don't want to forget, before we probably go to the public comments, just a big, big thank you to Lisa, who's here representing the Chief Counsel's Office. It has been about 100 percent more work on the top of 120 you already had. So thank you so much for your thoughtfulness and kindness as we go through this important work, I appreciate that.

MS. BERLINER: Okay. Thank you, Vice Chair.

Written comments, submit written comments to Docket Number 23-SB-02. They're due by 5:00 p.m. on Thursday, June 20th.

Now I'd like to open it up for public comments. Is there anyone in the room who would like to do public comment?

We have at least one. Okay.

MS. DERIVI: Thank you. My name is Tanya DeRivi,

T-A-N-Y-A, D like David, -E, capital -R-I, -V like Victor, -I, with the Western States Petroleum Association.

Do I get my full three minutes? Thanks. Thank you.

We first want to address misunderstandings regarding price spikes, specifically to respond to repeated claims from DPMO's director that price spikes are profit spikes for industry. This claim is misleading. From an economics perspective, it ignores the reality of all costs associated with operating a refinery in California. As the data sent to CEC shows, the volume-weighted gasoline refining margin for refiners turned negative in October, reflecting net losses on gasoline produced and sold.

West Coast refiners do not enjoy a net margin premium over the Gulf Coast counterparts. In fact, they face lower margins, higher costs, and higher risks than refiners in other regions, while under increasing pressure to maintain a reliable and affordable gas supply for Californians in the face of many supply obstacles.

The crack spread or the difference between the purchase price of crude oil and the selling price of key finished products is a more accurate real-time profit metric because it accounts for the variable cost of crude oil and is a more reliable measure of market risk. Performance of this crack spread shows that it is even more

important for the state to reduce uncertainty and not disincentivize refiners from supplying fuels.

WSPA also wants to address another source of confusion, which is the focus on gross versus net margins. Relying on gross margin data alone is highly misleading. Gross margins, even if defined correctly, don't tell us about net profit because they dramatically understate costs of goods sold and exclude operational costs altogether. This means that even if CEC allows refiners to make a positive gross margin, it could still be forcing industry-wide losses by imposing a negative net margin, which could, in turn, force refiners to exit California's market altogether.

It is also wrong to claim that industry is somehow gouging California's consumers when the reality is much more mundane. Other states have far fewer supply obstacles and much different energy priorities and prices reflect those realities. Indeed, as recently noted by the Vice Chair, there is no evidence of price gouging on the part of industry.

It shouldn't come as a surprise that California's market is cyclical. The draft transportation fuels assessment recognizes these seasonal dynamics. Figure 17 shows how CARBOB storage and production at refineries from 2006 to 2022 would typically diverge in the summer.

Refinery production is up, but stocks draw down due to high demand. We emphasize that imposing a margin cap and penalty will only exasperate these challenges and harm consumers.

Adopting policies to artificially constrict in-state gasoline supply does not accelerate the ZEV transition, it only punishes Californians who need more affordable fuels. State policy has also reduced flexibility for consumers while not yet finding affordable gasoline alternatives. Rather, it is more successful in encouraging a decrease in the state's refining capacity.

A balanced conversation is needed on how best to manage opportunities for affordable, reliable, and lower carbon fuels. We urge the CEC to work with industry to find solutions that address the root cause of high gas prices rather than scapegoating refiners that, as the CEC's own consultants have noted, are running as hard as they can and to serve the needs of the state.

Thank you for the extra five seconds.

MS. BERLINER: Thank you.

Before we go to the Zoom raised hands, we have gotten a couple of questions about when these slide decks will be posted to our website. I expect that they will be posted by the end of day tomorrow at the latest.

With that, first up, use the Zoom -- sorry, use

the raise hand feature on Zoom to raise your hand. Your microphone will be opened, you'll unmute your line, and then please state and spell your name for the record, and then begin speaking.

If you're joining us by phone, dial star nine to raise your hand. Then when you're called on, dial star six to mute or unmute your line. You may also use the mute feature on your phone.

First up, we have Ronald Stein.

Ronald, I have I have unmuted your mic.

MR. STEIN: Thank you.

MS. BERLINER: Yes.

MR. STEIN: Can I start?

MS. BERLINER: Hi, Ronald. Can you hear us?

MR. STEIN: I hear you.

MS. BERLINER: Okay. Do you have a comment?

MR. STEIN: Yes. My name is Ronald Stein, R-O-N-A-L-D S-T-E-I-N. I'm an author and columnist on energy literacy articles.

And my comments are, since all hospitals, airports, communication systems, militaries, planes, trains, and vehicles are based on the products that did not exist before the 1800s that are now made from fossil fuels, Governor Newsom will not discuss his plan to support a supply chain of the products and fuels demanded by today's

materialistic society and economy as America reduces its dependency on crude oil.

Newsom, by continually decreasing in-state oil production, continues to force California, the fourth largest county in the world, to be the only state in contiguous America that imports most of its crude oil feedstock to refineries from foreign countries. That dependency via maritime transportation from foreign nations for the state's crude oil energy demands has increased imported crude oil from 5 percent in 1992 to almost 60 percent today of total consumption.

Governor Newsom will not discuss how to maintain a supply chain of cost-effective products that are essential to meeting the increasing materialistic demands for human flourishing. All electrical generation from hydro, coal, natural gas, nuclear, wind, and solar are all built with the products, components, and equipment that are made from the oil derivatives manufactured from crude oil. Further, all EVs, solar panels, and wind turbines are also built with the products, components, and equipment that are made from oil derivatives manufactured from crude oil.

My question: How does the California Energy Commission expect California citizens to cope without such products supporting its supply chains, and how does it expect the less developed world to improve their

lifestyles?

Thank you.

MS. BERLINER: Thank you.

Next up, we have Jamie Court.

Jamie, I've opened your line.

MR. COURT: Yeah, thanks. I'm the president of Consumer Watchdog. I just need to correct some things said by the Western States Petroleum Association.

The net margins reported to the state are as phony as a three dollar bill. There is no validity to the net margin calculations reported by the oil refiners. And we know because we know, based on the SB 1322 data, that the refiner margins were over $1.01, averaged over $1.01 for 2023, and in many months, much higher than that. But that was the average for the whole year, $1.01 per gallon.

And by the calculations of the net margins they reported, that would mean it would take like $0.80 or $0.90 to make a gallon of gas. We know what it takes to make a gallon of gas. It's $0.20 to $0.30. This is based on the review of the Securities Exchange Commission documents filed under penalty of perjury by these very same refiners. It takes $0.20 to $0.30 to make a gallon of gas in California. So if they're making a dollar one and it takes 20 or 30 cents to make a gallon of gas, they're taking home 70 to 80 cents per gallon. And we know this going back

many years across the three refiners that report how much it costs to make a gallon of gas.

And so whatever the net margin data they produced, which we've talked about previously here, it's so phony that it should be disregarded. We know what their margins are. We know their margins are over $1.00 for 2023, which is outrageous on average because many of them are much higher. And we know that those margins increase in terms of when there are price spikes and there's low inventory, and that is gouging. Whether there's a legal definition for it or not a legal definition for it, that is what the public thinks. When they keep us on short inventories to make more profit, that is gouging. Whether you can prove that in an antitrust case is a whole other matter.

The other comment I want to address, to clear the record here, is the idea that we would, and this is not just what the gentleman said previously, but this is being broadcast across the state by ads by the oil companies on Facebook and mailers, the idea that if we had more in-state production, it would bring down gas prices. There is no relationship between the crude oil we produce in California and the cost of gasoline. That's been articulated by everyone, Severin Borenstein, many professors, because crude is set on a world market.

But more importantly, our supply of crude oil in California is disappearing. The average well in California produces less than three barrels of oil a day, three barrels of oil a day. A good size oil well produces between 100 and 1,000 barrels and the average oil well in California produces less than three barrels a day. We are on shrinking supplies. And unless we allow fracking we're not going to get more supplies and we're not going to allow fracking.

So that is a red herring and it's a red herring meant to derail the work of this committee in the commission of the Governor's Office and we just want to point these things out.

So I thank you for your time.

MS. BERLINER: Thank you.

Next up we have Jan Warren.

Jan I have open your line.

MS. WARREN: Good morning. Thank you. Jan Warren, J-A-N W-A-R-R-E-N. I'm with numerous climate groups. I'm in Contra Costa County with our four main refineries. And for the people who just watch the pump and see the price go up, they do not follow all the other maintenance things that the most of the EJ community does.

I want to thank Dr. Moreno, super presentations, super understandable. The data speaks for itself. The

data shows what those of us who do this stuff and follow it all the time suspect and gives validity to the fact that the connection is between supply and maintenance and when it's done, and the fact that the -- there's a signal that the fossil fuel industry can look -- is look at the same data that was presented today.

They can choose to bring in more fuel if they choose to -- or crude if they choose to have maintenance. But I think that the CEC should be looking at better oversight, better rules regarding the minimum, like they mentioned at the UK and so forth, of how much is being stored to prevent these spikes.

I just want to say that in April, I started watching my local a gas station that I don't even go to and it was like $5.19. And it just went up every time I turned around, you know, for like three weeks, it was going up $5.29 $5.39 it got up to $5.89. It only stabilized in like the last, you know, the last -- the month of May and maybe the last three or four weeks. And it has -- it went back down to $5.19 and has not moved.

Now, that's not what normally happens in this time of year as people start traveling, more people are driving and getting out. That's not normal. And had we not been having this conversation, I would propose that the prices would have continued to go up.

We had maintenance at the local Martinez refinery in May, they just finished up.

I just really appreciate all the work being done and appreciate the fact that we have an opportunity to read the data and even out this crazy up-and-down spike stuff, except for a blow-up of a refinery or something where we have to shut it down. But the more we have reserved, the better it is. And you're talking about not just individuals, but businesses, and businesses, we know the price of fuel inflates throughout our economy, which we know people are hurting right now.

So, thanks so much.

MS. BERLINER: Thank you.

Next up, we have Nicole.

Nicole, I've opened your line. Nicole, you'll need to unmute on your end.

MS. MARTINEZ: Okay, can you hear me?

MS. BERLINER: Yes.

MS. MARTINEZ: Okay, perfect. This is Nicole Martinez.

I just wanted to say that we've had a family gas station down near Los Angeles for over 30 years. And a lot of this discussion is just unsettling because the reality is that with our margins, the state is actually making more money than we are per gallon. And so it's really

frustrating to keep hearing that we're out there price gouging customers. And the reality is, also, that when our prices are higher, we actually make less because less customers come and they fill up less because they can't afford it. So it's really false, like the narrative that's been out there, and it's really frustrating to hear.

And I also worry about what will happen as we're going down this road with electric vehicles. I mean, we have ten employees, and what's going to happen to their livelihoods and everything because it's not going to be replaced.

So that's all I wanted to say.

MS. BERLINER: Thank you.

Next up, we have Michael Saragosa.

Michael, I've opened your line.

MR. SARAGOSA: Thank you. And good morning, Chair and board members. Thank you for taking our testimony today. Michael Saragosa on behalf of the Latin Business Association. We're proud to be the oldest and represent the largest amount of Latino businesses across the state of California.

Just a couple of items we wanted to highlight is, you know, many of our members, most of members are small businesses, mom and pop, sole proprietors. They need certainty in their ability to conduct business. And with

some of these discussions, we're very concerned about just the level of price fluctuations that go into this without not knowing exactly what their future lies in. You know, if they have to move to an all-electric sooner, or if there's going to actually be a competitive, all-the-above sort of strategy for them.

And that's where we really stand on is, you know, we're not anti-electric, but what we are is an all-the-above strategy. We know that the infrastructure isn't there yet to move onto this yet. And we think it's aspirational, but we also think there's not any ability by 2035 to move where we want to. And so we're jeopardizing tens of thousands of jobs across California, machinists, mechanics, drivers, and these are all people in communities of color that are going to be disproportionately affected. So, you know, we want you to be able to look at that.

And not only do we represent people in California, we represent people across the border, we represent people in the Southwest. I'm actually in Arizona today. I filled up my vehicle this morning, it was $3.39 to get gas. As you know, that gas in Arizona comes from Southern California and from Texas because there's no production in the state of Arizona. Why is it the same -- why is it markedly different? We just heard from the last, I think two call hours ago, it was $5.19 in California.

The reality is it's the regulations, it's the uncertainty in the market that's creating those higher prices in California.

So I wish you could take that into consideration when you actually are making your recommendations to the governor because it's obvious that the oil industry isn't just targeting California consumers for higher prices and leaving Arizona consumers alone. So it's just basic economics and why the regulations have caused California prices to be so high.

So I thank you for hearing my comments and I wish you well in your deliberations. Thank you.

MS. BERLINER: Thank you.

That was the last raised hand.

Vice Chair, Director Milder, is there anything else you'd like to say?

DIRECTOR MILDER:: Sure. I would like to start things off.

And first of all, thank you to the Vice Chair, to your staff, and especially thanks again to CEC staff, EAD in particular, and Jeremy Smith, who I can see in the auditorium.

I do have some concluding thoughts, I think, about the presentations we saw today. I want to start with one response to a comment that we heard here in person,

which came from a trade group that's funded by the oil industry.

And as a starting point, we welcome an honest discussion and to engage in good faith with the industry. So to have that type of discussion, though, we need to agree upon common facts, including what's been said in public forums.

So I find it very troubling to hear a trade group representative misquote the Vice Chair in his presence. And I say misquote because I was in the room at that Senate hearing. It's all available online. And the Vice Chair was responding to a question about the state's plan for a clean energy transition. That document, that plan is not about price gouging per se, but that's not an accurate quote. And so I think if we're going to have an honest discussion, let's stick to the facts.

Speaking of the facts that we did hear today, I think it's amazing to see the data being portrayed so clearly. And one thing that's crystal clear is that resupply obligations and inventory levels are critical to preventing or blunting price spikes. And so those price spikes happen when there are spot market volatility conditions that can be taken advantage of that make the market more susceptible to manipulation, so understanding those root causes is critical.

The presentation from Dr. Moreno shows, in a very discreet way, I think, how lost production in 2023 was the result of plans by industry. And I find these numbers to be staggering; 260 million gallons of gasoline was taken offline through production decisions and the decision not to replace that supply, with over 60 million gallons in September 2023 alone. That's just planned maintenance.

Like we all understand, that unplanned maintenance can occur, but what industry's planning to do sets the stage and makes the state more susceptible if there is a need for a buffer. So taking refinery production offline during the summer is a very troubling decision and I think one that deserves scrutiny.

So I think where I'd like to end this morning is where we started, which is that we should focus on where consumers are being impacted. And the question that I came into this morning was: Were consumers impacted by the supply disruption that we saw, and was that a contributing factor to price spikes? And it's just astounding to see that prices went up for 70 days and that it took another 35 days for the prices to return to where they started. That's elevated prices for about three months that consumers had to suffer through.

And it seems pretty clear from the data that refiners were making inflated profits as the prices went

up, and then retailers were making inflated profits as the prices came down. And some of our refiners in the state own a lot of retailers, so they would be benefiting on both sides of that price spike. And on both sides of that spike was the consumers who were paying the higher prices.

So my sincere hope coming out of today's presentations is that we can engage productively with industry about protecting consumers from supply disruptions. And the industry choices and engagement, I think, is critical and that's something that DPMO will be watching very closely.

VICE CHAIR GUNDA: Thank you, Director Milder.

I think we have one more commenter we missed, so if we could go back to the public comment. Thank you.

MS. BERLINER: We do. My apologies.

Thomas Walker, I have opened your mic.

MR. WALKER: Thank you. My name is Thomas Walker, T-H-O-M-A-S W-A-L-K-E-R. I am a consulting petroleum engineer. I've been active in California for 30 years. And I just want to make a couple comments.

I want to thank the folks at the refineries, the staff, for all the work that they do. You know, it can be hard to go to work every day when you face a lot of, you know, unprecedented, in my opinion, unwarranted attacks, but I appreciate all the effort that they put into it,

those on the refinery grounds themselves and the management.

I want to correct one comment I heard, that U.S. producing oil wells average 100 to 1,000 barrels a day. As a royalty owner, I know that to be fiction. As a petroleum engineer, I know that to be fiction. I have worked all my life with wells and the average production is more in the five barrels a day range. If you're fortunate to have a good, productive well, more power to you.

The one concern I have is California production is declining rapidly. The state has effectively banned new wells over the last few years and as a, you know, logical result, production is declining. We are therefore forced to import more and more crude oil each year.

And the one question that I would like to have answered is: What is the capacity of the ports in California to receive this imported food? And at what point will we exceed that capacity and see a supply of oil disruption or reduction in supply?

So that's my question I'd like to see answered at some point.

MS. BERLINER: Thank you.

Before I pass it to the Vice Chair, is there anyone else who would like to public comment? I'm seeing no hands, so I am going to move it to the Vice Chair to

close us out.

VICE CHAIR GUNDA: Yeah. Thank you, Aria.

And thank you, Director Milder, for your concluding remarks.

I just want to, you know, personalize this work and humanize this work. I think the price spikes that we have seen in 2022 and 2023, you know, first like just start with our collective agreement, as, you know, Director Milder kind of called out. Those price spikes, I think collectively, no matter which stakeholder group we represent, we could agree that it's bad for the consumers, just period.

It's a factual statement that those of us who live in the great state of California with the least means are most burdened by those price spikes. That, I think, should be a non-controversial statement. And I think, you know, or more or less, I mean, every person that I talked to, every stakeholder group I talked to agreed to that.

I think as soon as we agree to a common problem and we agree that it's a crisis, and going back to the governor's statement around equity, it is so important, you know, for us to look back at the historical wrongs in the energy transition and energy growth in California and the rest of the world where, oftentimes, the progress has left behind large parts of the economy. That's just a fact;

right?

You know, I want to start with, like, non-attribution and just kind of talk through some of the factual issues that we're trying to deal with.

So when we look at the problem statement and we collectively say, hey, that's a problem, and we collectively say we want to solve it because that's good for us, good for the consumers, good for the greater good, then the question becomes: How do we set a table to agree on basic factual contributions to this problem? And we put out, you know, a non-politicized, non-controversialized, you know, just set of options on the table to have an honest conversation about how do we ultimately protect and get to those objectives we want, as Director Milder mentioned.

So I think then the question becomes, in this case, it is so evident today, but by both presentations, a lack of slack in California creates price spikes. That's just it. And now, you know, as the commentators kind of commented, you know, there are various perspectives and various stakeholders who are affected differently by this. And there are a lot of secondary questions that come into sight here.

But I think what I would call an action, again, you know, I always try to start with a good-faith step,

assuming that when transparency occurs, when information asymmetry kind of reduces and there is a common call for a cause, you know, people tend to come together to do things in good faith.

With that, I would just, you know, continue to ask, you know, digest this information. There is no controversy in the information that's provided today in terms of a lack of slack and the price spikes. And I would call both the industry, you know, call the policymakers, you know, call the stakeholders to recognize the problem and do everything we can to protect the consumers at the end of the day. And I will do my part and I know Director Milder will do his part. And I know a lot of stakeholders have been having good faith discussions with us. And I do want to honor that and look forward to moving into the summer.

As Jeremy pointed out, there are reasons to feel a little bit optimistic than going into 2022 or 2023. And I really hope that today's workshop has provided enough visibility to traders out there, to the industry out there to really pull together the necessary levers to increase the liquidity this summer and protect the consumers at the end of the day. So that's how I see this.

And I know there was one more hand that came up. I will say, I will give the person the last word and let

them close the workshop today. Thanks.

MS. BERLINER: Okay, so there's no name associated with this. It's Galaxy A13 5G. I'm opening your line. If you can state and spell your name for the record, that would be great.

MR. FORMER: Can you hear me?

MS. BERLINER: Yes, I can.

MR. FORMER: Hello. My name is Cedric Former and I am a lead organizer at Groundswell. And at Groundswell, we work with both the community and our business leaders, our politicians, and we advocate for the stabilization of gas prices so those folks in business can effectively plan how they're going to operate and for he more of a predictability of the gas prices in a volatile market. This is so that people can do some long-term planning on how their operations are going to be done.

So we are looking for policy that support a competitive and transparent fuel market to ensure a level playing field for industry players and foster an innovative response to the market dynamic. And we're emphasizing for the critical role of state regulators to ensure transportation and fuel prices remain affordable for businesses and consumers alike.

Thank you for your time.

MS. BERLINER: Thank you.

We have Estella Kessler.

Estella, before I open your line, this -- I want to invite anyone else who has public comment to raise their hand on Zoom. Otherwise, Estella will be the last commenter.

Estella, I have opened your line.

MR. FORMER: Hi. My name is Doug Kessler. I'm using my wife's Zoom. And I'm the Executive Director of Si Se Puede of Fresno, Tulare, Kings and Kern counties.

And as the gentleman said before us, we are very worried, we do work out in the rural area, the stabilization of gas stations. The area we work in the gas is already higher than -- maybe one gas station in the whole little town. So it's very important about the stabilization and so people can plan their use of their finances.

Thank you very much.

MS. BERLINER: Thank you.

Just as a reminder, you can submit written comments until June 20th by 5:00 p.m. I want to thank everyone for joining and commenting and with that, we will close.

(Off the record at 10:56 a.m.)

CERTIFICATE OF REPORTER

I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were reported by me, a certified electronic court reporter and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

And I further certify that I am not of counsel or attorney for either or any of the parties to said hearing nor in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 20th day of June, 2024.

MARTHA L. NELSON, CERT**367

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I do hereby certify that the testimony in the foregoing hearing was taken at the time and place therein stated; that the testimony of said witnesses were transcribed by me, a certified transcriber and a disinterested person, and was under my supervision thereafter transcribed into typewriting.

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I certify that the foregoing is a correct transcript, to the best of my ability, from the electronic sound recording of the proceedings in the above-entitled matter.

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June 20, 2024