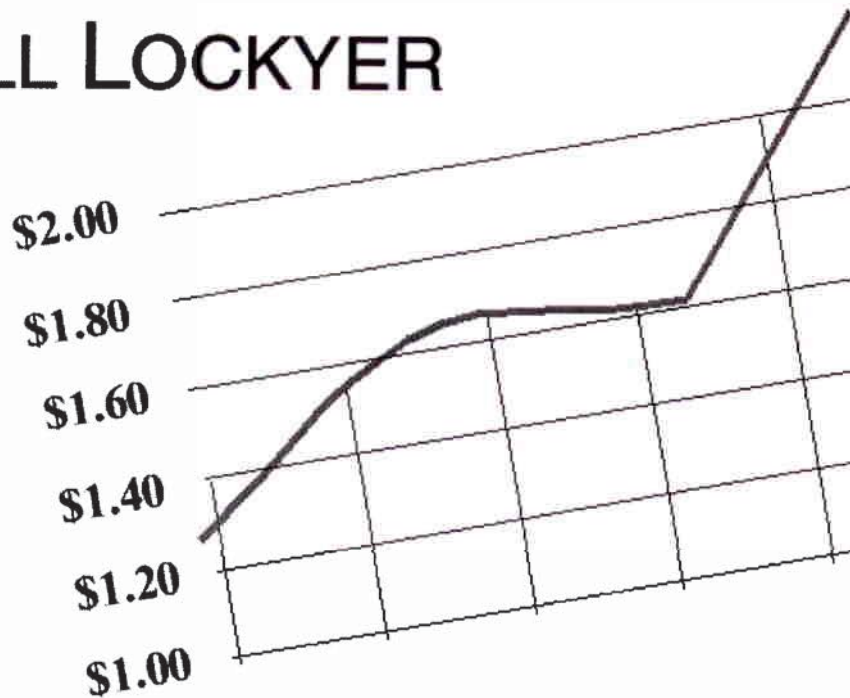




ATTORNEY GENERAL BILL LOCKYER



REPORT ON GASOLINE PRICING IN CALIFORNIA

May 2000

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ATTORNEY GENERAL'S
TASK FORCE ON
CALIFORNIA
GASOLINE PRICES
STAFF REPORT

Introduction

In the first eight months of 1999, retail gasoline prices in California rose dramatically, peaking at \$1.62 per gallon in April, 48.4 cents higher than the national average. Gasoline prices in San Francisco rose to the highest of any city in the nation, averaging \$1.75 per gallon. This price spike followed on the heels of reported refinery outages.

In November 1999, a Preliminary Report to the Attorney General Regarding California Gasoline Prices concluded that the following factors contributed to much of the price difference between prices in California and the rest of the nation: (1) the relative lack of competition associated with the structure of the state's gasoline refining and marketing industry, (2) supply constraints relating to California's unique clean-burning gasoline requirements and its distance from potential supply sources outside the state, and (3) somewhat higher state taxes.

After receiving the Preliminary Report, the Attorney General convened a special Task Force on Gas Pricing in California. The purpose of the Task Force, which included representatives from industry and consumer groups, was to exchange ideas and assess facts, rather than to reach a consensus. This document is a summary of the Task Force proceedings, including discussions from the Task Force meetings and information provided by Task Force members.

This report was prepared by staff from the Attorney General's office in consultation with economic consultants to the Attorney General. Every effort was made to summarize and fairly set forth Task Force discussions and the positions advanced by its members. A draft report was circulated among the members, comments were received and revisions were made to the draft report. In order to produce a report that meaningfully describes a complex economic dynamic, we have focused on significant factors that influence the California gasoline industry and consumer markets, and have tried to avoid becoming absorbed with matters of detail that those preparing the report did not believe had an appreciable effect on the proceedings.

The full Task Force met four times between January and March 2000. The Task Force deserves a note of appreciation for their energy and hard work. Discussions were always lively and informative. The group also broke into several subcommittees, organized around particular issues: Reserves and Inventories, chaired by Severin Borenstein; Imports and Risk Pooling, chaired by Tim Rogers; Barriers to Increasing Supplies, chaired by Evelyn Gibson; Divorcement, chaired by Tim Hamilton; and Zone Pricing, chaired by Dennis DeCota.

Task Force discussions generally fell into the following subject areas: gasoline prices, supplies, market structure, and fuel taxes. This report is similarly organized.

The first chapter is an overview of recent California gas prices, the issue that first sparked the Attorney General's interest in California's gasoline market.

The second chapter, Gasoline Supply, focuses on the availability of refined gasoline supplies in California. The chapter deals with supply disruptions and price spikes, and includes consideration of a gasoline reserve, industry-maintained gasoline inventories, and allowing gasoline into the state that does not meet California's cleaner-burning fuel requirements. This section also looks at long-term supply issues and examines barriers to importing gasoline, creating a pipeline connection to bring gasoline from Houston to California, and ways to reduce demand through conservation or increase supply through the use of alternative fuels.

Market Structure is the third chapter. In addition to describing the current market, this chapter considers ways to increase competition at both the wholesale and retail market level. These proposals include "branded open supply" and "divorcement."

Finally, the fourth chapter considers fuel tax issues, including repeal of the state fuel tax and a proposal to change the point at which fuel taxes are collected.

Overview of California Gasoline Prices

In 1999, California retail unleaded regular gasoline prices, when adjusted for tax differences, averaged 16 cents per gallon (cpg) more than the rest of the United States, double the difference in the prior two years. (Shown in Chart 1.) During spring and summer of 1999, California prices averaged 21 cpg more than the rest of the country. The Preliminary Report to the Attorney General Regarding California Gasoline Prices was issued in November 1999.¹ It showed gasoline prices in California were higher during 1999 than in any state other than Hawaii and Nevada. California experienced significant, unprecedented price “spikes” during 1999 after periods of refinery outages that reduced gasoline supplies.

Since 1996, several price spikes hit California that were not experienced in the rest of the country. Chart 2 shows the average price difference between California and the rest of the U.S. between January 1996 and April 2000, after equalizing for taxes. In the spring of 1996, California prices spiked with the introduction of cleaner-burning gasoline and several well-publicized refinery outages, and rose to 14 cpg above prices in the rest of the country.² In the spring and summer of 1999, California prices rose in excess of 30 cpg above prices in the rest of the country, an unprecedented difference, as several large refineries reported operational problems. News of continued problems at Chevron’s Richmond refinery coincided with increased prices again in July 1999. Due to gasoline price spikes and increases, California consumers paid an additional \$1.3 billion for gasoline through August 1999.³ The dramatic price spikes that have hit California since 1996 either did not impact areas outside California or were felt to a much smaller degree.

The difference between California retail gasoline prices and those in the rest of the nation narrowed in the first two months of 2000, but increased sharply again during the remainder of the first quarter. Since March of this year, the price differential between California and the rest of the United States has averaged more than 20 cpg, similar to the average differential in 1999. Although world crude oil prices rose in the 1st Quarter of 2000, prices in the West Coast and other U.S. refining centers were not significantly disparate. Therefore, while rising crude oil prices explain some of the current increase in retail gasoline prices nationwide, rising crude oil prices do not contribute to the differential in retail prices charged to Californians and other consumers in the United States.

The Preliminary Report noted that retail prices in Northern California were significantly more than in Southern California. Prior to 1996, price differences between California’s

¹ Preliminary Report to the Attorney General Regarding California Gasoline Prices, November 22, 1999.

² Prices dropped below the rest of the U.S. during the 4th quarter of 1996, offsetting some of the increases during the first part of the year.

³ During the first eight months of 1999, California consumed 9.4 billion gallons of gasoline. On average, the spread between California and the rest of the U.S. was 13.6 cpg greater than it was in 1998. Had the spread between California and the rest of the U.S. remained equal to 1998 levels through August (6.7 cpg), Californians would have paid 13.6 cpg less on average, a total of \$1.3 billion.

major cities were always less than 10 cpg. The difference between San Francisco and Los Angeles average retail prices has widened considerably over the past several years to more than 20 cpg by 1999. In the 1st Quarter of 2000, retail unleaded price differences between major California cities remained more than 20 cpg.

Task Force Evaluation of California Gasoline Supply Issues

The Preliminary Report to the Attorney General identified issues regarding available supplies of gasoline that contribute to California's gas price differential. Members of the Task Force worked to better understand the nature of the supply problems confronting California and to propose possible solutions.

Summary of Supply Situation

Mechanical problems and outages at refineries occur from time to time in every major refining center. Such problems had a large impact in California in recent years, as evidenced by recurring price spikes.⁴ Supply disruptions trigger large price increases in California because (1) California refiners have little spare capacity to cover outages, (2) California refiners maintain relatively low inventory levels and (3) alternative sources of supply (i.e., imports) from outside the state have not been sufficient to prevent large price increases within the state.

CARB Gasoline

Since 1996 California has required a special clean-burning gasoline known as "CARB."⁵ CARB is also known as California Reformulated Gasoline, or CaRFG. CARB gasoline is required year-round in California. The formulation requirements for the summer months are more stringent and exacting than the winter months. CARB gasoline is more expensive to produce than gasoline used elsewhere in the U.S. Since its introduction in 1996, the wholesale price for CARB has averaged approximately 4 cpg more than conventional gasoline. Some refiners located in the U.S. Gulf Coast, Caribbean and Europe manufacture CARB gasoline.⁶ However, they do not produce CARB on a regular basis.

No Spare Refining Capacity in California

There is little existing spare refining capacity in California for the manufacture of CARB gasoline. California refiners can meet demand for gasoline when all refineries are operating smoothly and at relatively high utilization levels. But when a refinery has to shut down or limit production due to operational problems, there is not enough supply

⁴ Much discussion occurred during the Task Force meetings about the similarities between California and other West Coast markets in terms of higher prices than the rest of the nation.

⁵ "CARB" is the gasoline formulation required under the California Air Resources Board Phase II regulations. The California Air Resources Board estimates that these requirements reduce smog-forming emissions from motor vehicles by 15 percent and reduce cancer risk from exposure to motor fuel toxins by approximately 40 percent. "CARB" is an acronym used to describe gasoline formulated under these California Air Resources Board standards.

⁶ Non-California refiners capable of manufacturing significant quantities of CARB have been identified as Valero (Gulf Coast), Amerada Hess (Caribbean) and Neste (Europe).

within the state to meet demand. Some Task Force members believe that California's clean air requirements increased the number and length of refinery disruptions. These Task Force members expressed concerns that the Preliminary Report understated the impact of California's clean air requirements on gasoline prices. When supplies available to the market in California are reduced during a refinery outage, prices rise.

The California Energy Commission (CEC) projects that unless there is increased refining capacity, California demand will very soon outstrip available capacity. This imbalance will be magnified by a reduction in effective capacity that will occur when methyl tertiary-butyl ether (MTBE) is removed from gasoline and the demand for CARB increases due to the decision of Arizona and Nevada to use CARB gasoline during certain months of the year.⁷ Finally, California's complex environmental and permitting regulations and vocal community opposition will make it difficult to reopen or build a new, "grass-roots" refinery within the state.

Inventories

California refiners maintain relatively low inventories of gasoline. During the 1990s, refiners on the West Coast reduced inventory levels by approximately 20 percent.⁸ California and other West Coast refiners typically maintain lower inventory levels (relative to sales) than do refiners in the rest of the U.S.⁹ As a consequence of low inventories, when there are refining outages in the state, there is limited ability to augment lost refinery production by using gasoline inventories. This phenomenon exacerbates the supply problem created when a refinery experiences an outage. As a result, during refinery outages prices rise dramatically in California as they did in the spring and summer of 1999 and in the spring of this year.

Alternative Gasoline Supply Sources (Imports)

Refiners in other parts of the U.S., Europe, and the Caribbean have some ability to manufacture CARB gasoline, or reformulated gasoline that readily can be made into CARB. However, several factors hinder the importation of CARB gasoline into California when supply disruptions occur. First, many refiners outside California do not regularly manufacture. Some of these refiners may produce CARB gasoline only when requested by a customer. Also, significant transportation costs make imported supplies too costly except during periods when price spikes occur. Currently, no pipelines transport gasoline to California and the only method for importing is by marine tanker. Shipping costs from outside the state ranges from 8 to 12 cpg.¹⁰ Another factor is the fact

⁷ Because MTBE both helps to meet CARB specifications and adds volume to gasoline supply, its elimination will reduce the effective refining capacity in California.

⁸ Preliminary Report to the Attorney General Regarding California Gasoline Prices, November 22, 1999.

⁹ Task Force member Western States Petroleum Association (WSPA) believes it is significant that declining inventories are not unique to California, but represent a national, if not worldwide, trend to enhance efficiency.

¹⁰ *Octane Week*, August 2, 1999

that it typically takes at least several weeks to transport supplies to California. The length of time required to manufacture and import CARB gasoline creates a risk that prices in California may fall to levels that make importation unprofitable before the product reaches the state.¹¹ Finally, the only companies currently capable of purchasing large stores of imported gasoline are in-state refiners, who do not have as great an incentive to import gasoline during price spikes as independent marketers. As a result of these factors, the price of gasoline in California can rise far above prices elsewhere before attracting additional supplies to the state.

¹¹ Subcommittee report “Barriers to Increasing Supplies of Petroleum in the California Market.”

Gasoline Supply Proposals

The Task Force divided the supply proposals into two categories:

- Price spikes and supply disruptions.
- Long-term imbalance between in-state supply and demand.

A. Price Spike Mitigation Proposals

The Task Force considered three possible solutions to increase the supply available in the event of an unexpected shortage:

- Creation of a state-owned gasoline reserve.
- Creation of a surcharge permitting the sale of non-CARB gasoline.
- Mandating inventory requirements.

1. State Gasoline Reserve

The Task Force designated a subcommittee chaired by Severin Borenstein, an economist with the University of California Energy Institute, to evaluate state ownership of a strategic gasoline reserve as a way to mitigate the impact of gasoline spikes driven by short-term disruptions. The subcommittee presented its report to the Task Force on February 9, 2000.

Overview

The subcommittee evaluated whether California could establish and maintain a gasoline reserve designed to reduce the frequency and longevity of price spikes driven by short-term operating disruptions in California refineries. Task Force members generally agreed that to be effective in combating a price spike, a reserve must be managed so that supplies are released automatically from the reserve when supply disruptions occur. Task Force members also generally agreed that the reserve would be most effective if reserve supplies were obtained from out-of-state sources so that establishing and maintaining the reserve would not detract from existing state supply.

Reserve Characteristics and Operational Issues

The Task Force identified the following issues that would need to be considered with respect to creation of a state-owned reserve:

- Reserve levels.
- Potential Storage Facilities.
- Storage Life of CARB.
- Release and Replacement Mechanisms.

Reserve Level

The Task Force did not determine the size of the reserve, but noted an effective reserve should be large enough to respond to likely supply disruptions. Earlier studies by the California Energy Commission analyzed the impacts of a four-week disruption in supplies and the feasibility of storing 2.5 million barrels of gasoline. A four-week loss of production at a large California refiner could reduce supply by as much as 3 million barrels.

Potential Storage Facilities

The state would need to arrange for facilities to store a state gasoline reserve. The Task Force did not prefer a particular facility, but concluded that there is likely sufficient storage within the state and no facilities would need to be built. The state could lease light product storage facilities in Los Angeles and San Francisco to meet some of the need. Southern California Edison and Pacific Gas and Electric also have surplus facilities available for lease that would need to be modified to store gasoline.

Storage Life of CARB

The shelf life of CARB gasoline was a key issue discussed by the Task Force. Some members questioned whether CARB gasoline can be stored over long periods of time and stated that the product has a shelf life of weeks or a few months at most. Air Resources Board officials stated that with proper care, gasoline can be stored for at least six months and possibly for a year or more. Some members reported that additives may extend the shelf life of CARB beyond a year.

Some Task Force members also raised concerns about the different seasonal specifications for CARB gasoline. They pointed out that storage would be more costly because the reserve would have to store both summer and winter specifications. This concern could be addressed by storing only the cleaner-burning (summer grade) specification, but other issues may still need to be addressed.

The shelf life of CARB gasoline is still a matter of open debate. The Reserves Subcommittee suggested that if CARB can only be stored for a few months, the state could still maintain a reserve by periodically “cycling” gasoline through its tanks. But the subcommittee determined that “the need to cycle the product rather than simply store it in facilities would greatly increase the expense and complexity of maintaining a reserve.”¹²

Release and Replacement Mechanisms

The subcommittee noted that a key element in the potential success of any reserve is the ability to release product quickly into the market, and had a concern over potential

¹² Memorandum to the Task Force from the Reserves Subcommittee.

disagreement over when and how the reserve should be released to the market. The Reserves Subcommittee analogized this concern to the political controversy that surrounds potential release of the national Strategic Petroleum Reserve.

Some Task Force members raised the possibility of incorporating a swap or exchange program as a means to release product from the reserve. A swap or exchange program could eliminate the need for a specified trigger mechanism because it would rely on market forces for utilization of the reserve rather than administrative determinations.

But there was general agreement among the Task Force members that to be effective, there should be a pre-determined and automatic mechanism for releasing product from the reserve. Such an automatic trigger of reserve supply would insure that product reaches a market with rising prices in a timely manner.

Finally, Task Force members were concerned that the reserve would be less effective if established and maintained with gasoline produced in California. Filling the reserve from in-state refining sources would potentially take product out of the California market, thereby causing more demand on California supply and raising prices to consumers.

Arguments For A State-Owned Reserve

Some Task Force members argued that establishing a reserve, with appropriate procedures for releasing product to the market, will benefit consumers by adding product to the California market when state supply is disrupted. The Preliminary Report found that during 1999, California consumers paid an additional \$1.3 billion through August due to the price spikes in the state. The report also found that price spikes are likely to be an issue in the future. Indeed, this California trend has continued with price rises during March of this year to levels that are more than 20 cpg greater than the rest of the U.S. Proponents felt the reserve will help reduce the intensity and duration of price increases. Proponents argued that the benefits of the reserve to California consumers will outweigh the costs of operating and administering the system.

Arguments Against A State-Owned Reserve

The Reserves Subcommittee and some Task Force members argued against a reserve, contending that while a reserve may help mitigate price increases during supply disruptions, there would be considerable controversy surrounding the issue of when and how to release supplies in the event of a shortage. They also argued that a reserve would be a net cost to California consumers and sellers of gasoline. They also argued that because tapping the reserve would harm the interests of sellers, there would be opposition to this idea.

The Reserves Subcommittee expressed concerns that a state reserve would lead refiners to reduce their own inventory levels, which could cause greater price volatility.

Unlike the federal Strategic Petroleum Reserve, which is justified by national security, the subcommittee noted that nearly all the buyers and sellers of CARB gasoline in California are U.S. entities (i.e., California consumers are the buyers and California refiners are the primary sellers) so the effect of the state reserve would only be to redistribute wealth among U.S. citizens and corporations.

2. Surcharge on Sale of Non-CARB Gasoline

A subcommittee chaired by Evelyn Gibson of the California Independent Oil Marketers Association (CIOMA) was charged with identifying the physical, geographical, economic and regulatory barriers to increasing supplies in the California market. The subcommittee presented its report to the Task Force on March 16, 2000. The subcommittee identified CARB fuel specifications as one factor that impedes imports. The subcommittee also stated that allowing any market player to sell non-CARB reformulated gasoline in the state, subject to a surcharge, could possibly mitigate price spikes.¹³

Overview

This proposal would permit any gasoline supplier to sell non-CARB reformulated gasoline if they pay a fee that could be used to mitigate increased pollution caused by use of the non-CARB gas. The proponents of this concept believed that a surcharge of 15 cpg would be a sufficient economic deterrent to prevent the sale of non-CARB gasoline except in times of supply/demand imbalance when price increases exceed 15 cpg.

Those who favor this proposal observe that the precarious supply/demand balance in the state developed following the introduction of CARB in 1996, and that adherence to the CARB standard leaves the state fewer supply alternatives when production is lost or interrupted. The rationale supporting the sale of non-CARB reformulated gasoline is that doing so will increase the state's gasoline supply during price spikes, by adding to the supply sources in-state and imported non-CARB gasoline. Any surcharge would need to be high enough to eliminate the incentive to sell non-CARB gasoline at any time other than periods of price spikes, and to pay for necessary pollution reduction activities to offset increased harmful emissions. Some Task Force members suggested that the revenues could be used to fund California's voluntary accelerated retirement program for older, higher-emitting vehicles.

Benefits Associated with Non-CARB Gasoline Sales and Surcharge

Proponents claim this proposal to allow sale of non-CARB gas mitigates price spikes by inducing out-of-state supply when CARB gasoline prices exceed the surcharge plus the cost of transportation. They believe the proposal would effectively place a "fixed band" on the price differential for gasoline between California and other states, exclusive of

¹³ Testimony of Severin Borenstein before the California Assembly Transportation Committee, June 7, 1999 and "Discussion of Barriers to Increasing Supplies of Petroleum in the California Market" report of the Sub-Task Force (no date).

taxes and transportation. For example, if the price difference between California and other states rises above the surcharge amount plus the cost of transportation, then marketers would seek to import – and in-state refiners cease to export – non-CARB supplies.

Alternatively, if prices in the state do not reach levels that exceed the surcharge and transportation cost, marketers and in-state refiners would be inclined to send their non-CARB gasoline supplies to destinations outside California. Thus the surcharge would prevent non-CARB gasoline sales in California when gasoline prices are not abnormally affected by supply interruptions. Prohibiting the sale of non-CARB gasoline except during periods of price spikes could minimize negative environmental impacts inherent in use of non-CARB gas. A surcharge would also allow in-state refiners to earn a return on sales that allows for recovery of their investments to produce CARB gasoline.

Proponents argue that revenues collected from a surcharge would be sufficient to enable the state to mitigate environmental effects associated with non-CARB gasoline usage through the retirement of high-emitting vehicles from California roads.¹⁴

Concerns About the Non-CARB Supplies and Surcharge Proposal

Some Task Force members were concerned about the environmental impacts associated with higher emissions and toxic air contaminants that would result from use of non-CARB gasoline supplies. California is under stringent Clean Air Act requirements to improve air quality. The 1994 California State Implementation Plan for Ozone recognized the need to meet the health-based National Ambient Air Quality Standards in the Los Angeles region by reducing hydrocarbon emissions by 1,194 tons per day and nitrogen oxide emissions by 808 tons per day. California's cleaner-burning gasoline requirements account for reductions in the Los Angeles Region of 190 tons per day of hydrocarbons and 110 tons per day of nitrogen oxide – approximately 15 percent of the total reductions required. These facts demonstrate there are significant reductions that come from the CARB regulations.

Some proponents of this measure believe that *net* emissions impacts from use of non-CARB gas would be negligible.¹⁵ Yet, the impacts are largely contingent on the amount of non-CARB that would ultimately be consumed and the reduction in emissions that could be obtained with substitute programs. This year, the Air Resources Board will complete a pilot study that should answer some preliminary questions related to the impacts of other environmental programs such as a reduction in numbers of high-emitting vehicles.

¹⁴ Additional information on the potential use of the surcharge to offset increased pollution may be found in the testimony of Severin Borenstein before the California Assembly Transportation Committee, June 7, 1999.

¹⁵ Testimony of Severin Borenstein before the California Assembly Transportation Committee, June 7, 1999.

Another area of concern pertains to the amount of a surcharge that should be imposed on non-CARB gasoline sales. The surcharge requires careful estimation because it would affect: (1) the amount of non-CARB gasoline, and consequent emissions, introduced to the state, (2) the price benefits to gasoline consumers, and (3) the ability of in-state refiners to recover their investments to produce CARB gasoline.

Finally, several Task Force members felt this proposal would not significantly impact California prices.¹⁶ These members were skeptical of the basic premise that CARB requirements are a major cause of California's price spikes. These members felt that the ability to import fuel that meets CARB regulations has been proven, and that the additional volumes that would be imported through the proposed mechanism would not provide any significant price relief. These members indicated that price spikes were a regional issue, driven by the concentration of refining and marketing capacity among a few companies, limited access to marine terminals and the lack of a significant independent marketing presence

B. Long-Term Supply Alternatives

California consumption is projected to exceed the state's gasoline production capability within the next five years (Chart 4). Absent an increase in supply or a reduction in consumption, higher gasoline prices will result.

The Task Force explored the following solutions to long-term supply problems:

- Creation of a Pipeline Connection to California.
- Imports and Risk Sharing.
- Increasing Refinery Capacity.
- Conservation Measures.

1. Pipeline Supply Connection to California

The Task Force discussed the potential for delivering gasoline by pipeline into California from refining centers in the U.S. Gulf Coast. Tim Rogers of Tower Energy and Robert Roth of World Oil made a presentation to the Task Force on March 17, 2000. Mary Morgan, Vice President of Kinder Morgan Pipeline, also made a presentation to the Task Force on March 31, 2000.

¹⁶ In addition to the Air Resources Board and CalEPA, other Task Force members raised significant concerns about the practicality or advisability of these suggestions.

Overview

California and the U.S. West Coast are isolated from refining centers in the rest of the United States. States east of the Rocky Mountains are interconnected through an extensive pipeline network to refining centers in Texas and Louisiana and the Mid-Continent. As a result of its relative isolation, California experiences dramatic price spikes when local supplies are stretched, as in 1999. During these supply disruptions, California relies on imports via marine tanker to augment gasoline supply. The cost of marine transportation from the U.S. Gulf, Caribbean or Europe to California is between 8 cpg and 12 cpg per gallon. It takes approximately two weeks to move gasoline by marine tanker from the U.S. Gulf. To move gasoline from Europe takes about four weeks. The cost and time required for marine movement of gasoline prompted interest in the creation of a pipeline connection between the U.S. Gulf region and California.

Pipeline Supply Economics

The likelihood of any investment in a pipeline connection to California, particularly on the part of the private sector, is contingent on the pipeline's economic feasibility. Based upon comments by Mary Morgan and Tim Rogers, it may not appear that market economics will support private investment in a pipeline to California for at least the next few years, in light of current demand levels in California and the cost of transportation.

Based on information presented to the Task Force, it appears the following conditions must be met to make a pipeline connection an economically viable measure:

- **Sufficient Gasoline Demand:** There must be a continuous, regular demand in California for the gasoline supplied by the pipeline.
- **Competitively Priced Pipeline Supply:** The delivered price in California must cover the purchase price, plus the pipeline tariff. Estimates for the cost of pipeline movement of gasoline to California range from 8 cpg to 10 cpg. Accordingly, the cost of gasoline in California must be at least 8 cpg to 10 cpg greater than prices in the Gulf region to warrant pipeline shipment on a regular basis. This price differential does not take into account the additional cost to manufacture CARB.

The Task Force discussed several options for pipeline connection to California. The specific alternatives were:

Completion of Longhorn/Reversal of Kinder

Construction of the Longhorn Pipeline from Houston to El Paso, Texas is largely complete. Start up of the line has been delayed by environmental challenges. At El Paso the line will connect with Kinder Morgan's line running to Tucson and Phoenix, as shown in Chart 5. Kinder Morgan expects it will expand delivery capability on its line from El Paso to Phoenix after Longhorn is completed and after it receives commitments from shippers.

The Longhorn Pipeline has several implications for California's gasoline supply. First, increased product supply to Arizona from the U.S. Gulf Coast may reduce Arizona's need to import refined products from California. From a supply standpoint, exporting less product out of California is equivalent to importing the same amount into the state, but without the transportation costs associated with imports.

The second implication is the potential to reverse the pipeline flow between Phoenix and California. This would permit direct transport by pipeline from Houston to California. According to Kinder Morgan,¹⁷ the cost of reversing the flow of the LA-Phoenix line is relatively small. However, Kinder Morgan indicated it is not likely to make this investment until (1) Longhorn supplies actually begin to flow into Arizona, (2) the flow from Longhorn is sufficient to meet Arizona demand, and (3) there is sufficient demand in California to guarantee continued, regular shipment from Phoenix to Los Angeles.

Longhorn estimates that it will begin shipments by the end of this summer, but this goal may prove optimistic in light of pending litigation. After Longhorn begins shipments, Kinder Morgan estimates that it would take at least a year to expand capacity from El Paso to Phoenix. Thus, an optimistic schedule does not project pipeline transport from Houston to Phoenix until at least mid-2001.

Conversion of Natural Gas Lines

In recent months, two companies purchased large crude oil pipelines originally built to transport Alaska North Slope and offshore California crude eastward. The buyers intend to convert the lines to transport natural gas into California.

- Plains All-American Pipeline from McCamey, TX to Bakersfield, CA was purchased for \$129 million by El Paso Energy. Gas conversion and flow reversal will cost an additional \$75 million.¹⁸

¹⁷ Presentation by Mary Morgan of Kinder Morgan to the Task Force on March 31, 2000.

¹⁸ Plains All-American Pipeline evaluated feasibility of conversion to products and reversal of the line prior to its sale to El Paso. Plains concluded that the 30-inch diameter line did not easily connect to the Los Angeles market and that the diameter of the pipe was larger than optimal to ship refined products. (*The Oil Daily*, November 4, 1999) The Questar line, at 16 inches in diameter, may be more suitable.

- Four Corners/ARCO Line 90 from Paradox, NM to Long Beach, CA was purchased by Questar. At Paradox, the line connects with crude oil pipelines into Texas.

These pipelines are also illustrated in Chart 5. If the demand within California were sufficient, these lines could be converted to carry gasoline into California. The conversion cost and any costs to connect to specific markets in California likely would be relatively small.

Conversion of one of these pipelines to gasoline may reduce the natural gas pipeline capacity available to California. This has potential implications for electricity costs since natural gas is a key fuel for the state's electric generation.

Construction of a New Line

The cost to construct a new pipeline from Texas to California would be fairly large. Kinder Morgan estimated that it might cost approximately \$1 million per mile.¹⁹ Assuming a route starting in El Paso, a new pipeline would entail an expenditure of close to \$1 billion. Such a large capital expenditure likely would require a tariff several cents higher than the cost of marine shipment from the Caribbean or the U.S. Gulf Coast. Even if demand in California were sufficient, the transportation costs associated with new pipeline construction may make supply by pipeline less attractive than regular marine deliveries.

Permitting and construction of a new pipeline would take many years. Task Force members noted recent experiences of other pipeline projects (e.g., Longhorn) imply significant environmental challenges for any new construction, potentially adding several more years to the effective completion of such a project.

2. Imports

The Task Force considered ways to increase CARB gasoline supplies in California, particularly during periods of price spikes. The Task Force evaluated the potential for increased imports of gasoline to the state through a subcommittee comprised of Robert Roth of World Oil, Tim Rogers of Tower Energy and Phil Verleger. Another Task Force subcommittee, evaluating the barriers to increasing supplies to California, noted in its report that there are challenges unique to California in importing gasoline supplies.²⁰ Warren Moore of Neste also made a presentation to the Task Force describing factors that impede imports of gasoline to California.

¹⁹ Presentation of Kinder Morgan at March 31, 2000 Task Force Meeting.

²⁰ Subcommittee report "Barriers to Increasing Supplies of Petroleum in the California Market."

Overview

Independent gasoline marketers face unique business risks in importing gasoline supplies to California. One impediment is “price risk,” caused by California’s relative distance from outside supply sources and the significant time it takes to bring tanker supplies to California.²¹ Warren Moore of Neste²² explained that from an independent marketer’s perspective, California inherently is “more risky” than other potential markets. Mr. Moore specifically identified the following factors as contributing to the risk in participation in the California market:

- Longer transportation time increases the probability that pricing conditions may change unfavorably while supplies are in transit.
- Higher transportation costs can lower net revenues when shipping to California as opposed to other market destinations.
- A lack of market liquidity makes hedging, or using financial instruments to insure against price changes, more difficult for traders.
- Difficulty in obtaining adequate terminal space for large tankers increases the risk that supplies will not be efficiently marketed.
- Majors lack incentive to purchase imported supplies.

Independent marketers in California also face additional challenges because large volumes are required to transport supply via marine tanker. Individually, each marketer typically does not need such large supplies at one time; importing small amounts is via tanker is generally uneconomical. As a result, independent marketers purchase domestic supplies rather than import gasoline from outside California.

These factors contribute to the relatively low levels of gasoline imported to the state. The Task Force discussed potential measures that might mitigate the risks to importers with the ultimate objective to increase supply and lower consumer prices.

- One method of risk sharing would establish a cooperative of independent marketers. If smaller independent marketers were to coordinate their efforts to secure gasoline supplies, they would have greater buying power when dealing with both in- and out-of-state suppliers. For example, an independent marketer cooperative could contract to bring in large volume marine tankers. Such combined buying power would likely to make tanker supply economic, where it would not be if marketers acted independently.

²¹ Subcommittee report “Barriers to Increasing Supplies of Petroleum in the California Market.”

²² Neste, the state petroleum company of Finland, primarily manufactures reformulated gasoline for export to world markets.

Moreover, a group of marketers could help create a greater market for financial instruments to hedge against price risk. Greater liquidity facilitated by financial instruments would encourage marketers to import gasoline since they would not be forced to fully bear the inherent risk of price changes while supply is in transit.

- Another way to minimize risk to marketers would be to supply marketers through the other mechanisms considered by the Task Force, such as a reserve or a pipeline. Should the state pursue any of these options, mechanisms could be put in place to give marketers the option to receive supplies from these sources.
- Financial instruments could be underwritten by the state as a way to hedge against price risk or to increase market liquidity. These methods may cost more due to the inherent financial risks involved in speculative markets. Such instruments would need to be carefully structured and well-managed.
- One Task Force member proposed to have state and local agencies enter long-term (three to six months) fixed-price contracts for petroleum. Such contracting should create a basis for independent suppliers to seek supplies from outside sources without taking large financial risks.

Benefits Associated with Proposals to Facilitate Imports and Share Risk

Risk sharing and facilitating imports could lower the cost and increase the number of supply sources to the state to benefit marketers and consumers. Overcoming the obstacles to importing and measures to increase marketer buying power would enable marketers to acquire lower cost gasoline supply. This would improve marketers' competitive position in the wholesale market. Lower cost supplies could translate to lower prices to consumers at the pump. An increase in the number of supply sources from out of state would mitigate the potential for supply shortages, relax the tight supply-demand balance in California, and put downward pressure on gasoline price levels.

Costs Associated with Facilitating Imports and Risk Sharing

The costs of facilitating imports and risk sharing likely depend upon the proposals that are implemented and the state's role in that course of action. There is likely to be only minimal cost associated with supporting an independent marketer cooperative. Similarly, the cost of enabling independent marketers to acquire supplies through state mechanisms such as a reserve is likely to be relatively small.

3. Increasing In-State Refining Capacity

As described in the Preliminary Report to the Attorney General, investments needed to upgrade refining facilities to produce CARB contributed to the closure of some independent refineries. The Task Force subcommittee that evaluated the barriers to increasing supply in California reviewed the impact these refinery closures have on California's gasoline supply.²³ Other Task Force members noted that lack of access to crude oil limits the ability of small refiners to produce gasoline and the feedstocks that major oil companies could use to make more gasoline. The subcommittee also evaluated the potential to increase refining capacity in the state through restart and/or expansion of independent California refineries.

Overview

Total crude oil refining capacity for California refineries fell from 2,250,000 barrels per day in 1988 to 1,900,000 barrels per day in 1999.²⁴ Even though total crude refining capacity has declined over this period, gasoline production capacity has increased due to upgrades at facilities owned by the remaining few players. In the early 1990s, California's small independent refiners played a more significant role in supplying gasoline for use in California and other West Coast states. Capacity that traditionally was available from small independent refineries is no longer available today, because most have either ceased operations or have not made the investments necessary to manufacture CARB gasoline. For example, four independent refineries capable of manufacturing combined refining capacity of 171,000 barrels per day, closed during the 1990s.

The closure of many independent refineries has also increased the concentration of California's wholesale gasoline supply market. Branded refiners now control more than 90 percent of the state's refining capacity. Small independent refiners generally sold their gasoline through independent distribution networks, such as independent jobbers and independent open dealers. When independent refineries closed, many of these jobbers and dealers entered into branding agreements with branded refiners so they would be assured of adequate gasoline supplies.

The Task Force considered the restart of independent refineries or expanding refinery capacity as ways to increase CARB gasoline supply. An impediment to restarting or expanding capacity is the approval process required to comply with environmental regulations. The Task Force considered ways to support and facilitate independent refiners' environmental impact reviews before air quality management districts, state agencies, community groups, and other entities.

²³ Task Force Subcommittee presentation on "Barriers to Increasing Supplies of Petroleum in the California Market."

²⁴ Task Force Subcommittee presentation on "Barriers to Increasing Supplies of Petroleum in the California Market."

One model of such support is the effort the California Air Resources Board (the Board) made to facilitate capital improvements necessary for the implementation of the Phase 2 CARB requirements (required in 1996). The Board coordinated a series of planning and scoping meetings to early identify and resolve potential issues. The Board facilitated and coordinated state agency concerns and comments for all of the refiners' capital projects. The Board also mediated disputes and provided technical assistance to local agencies. These efforts by the Board expedited and streamlined the preparation of environmental impact reports (as required under the California Environmental Quality Act) for the refinery projects.

Arguments in Favor of Restarting Independent Refineries and Expanding Refineries

Certain members of the Task Force argue that facilitating the environmental review process and streamlining regulatory and permitting requirements in an effort to restart independent refineries and expand current CARB production capacity will increase California's gasoline supply. Supply from independent refiners would help meet the growing state's growing demand and mitigate the potential for price spikes due to short-term supply disruptions, resulting in savings to consumers. Encouraging re-entry of independents in to the market could also lower retail prices by increasing competition at the wholesale supply level.

Arguments Against Restarting Independent Refineries and Expanding Refineries

The Task Force subcommittee concluded that environmental agencies, public interest groups, unions, and community groups in particular are likely to be concerned about restarting refineries, especially those near urban areas.²⁵ In addition to air and water pollution, these groups would be concerned about toxic substances emitted by refining processes. They are also concerned about potential disparate impacts on low-income and ethnic groups if refinery sites are near their neighborhoods, and the civil litigation that may result from disparate pollution effects.

4. Conservation Measures

The Task Force considered the impact that reducing gasoline consumption could have on gasoline prices. Roland Hwang of the Union of Concerned Scientists made a presentation to the Task Force on March 16, 2000 describing the conclusions of the Conservation Subcommittee.

Overview

The Conservation Group examined two studies of the potential for reducing gasoline demand: (1) the California Energy Commission's "1993-1994 California Transportation Energy Analysis Report"; and (2) John DeCicco and J. Mark's 1998 *Energy Policy* article

²⁵ Task Force members did not hear directly from the communities where refinery restarts or expansions are likely to occur.

“Meeting the Energy and Climate Challenge for Transportation in the United States.” The Conservation Group agreed that the studies are a fair characterization of the conservation potential for the purposes of the Task Force.

The most effective means for reducing demand would be increasing fuel economy. For example, if fuel economy was increased 20 percent for new cars and 10 percent for new light trucks in California by 2010, there would be a resultant 8 percent reduction in demand. Doubling fuel economy nationwide by 2010 would reduce demand by 32 percent. Alternative fueled vehicles, such as electric and hybrid vehicles, may provide the best potential to increase the fuel economy on a miles per gallon basis.

A variety of transportation and land use measures could provide modest decreases in demand. Improvements to rail and bus service could yield a 0.2 percent to 0.6 percent reduction in demand. Modifications in residential development, to emphasize and facilitate pedestrian or mass transit, would result in a range of 0.02 percent to 0.1 percent reductions in fuel use for each 1 percent change in new residential development. An advanced transportation control measure package could yield a 5 percent reduction in fuel use. If employee parking costs a minimum of \$3 per day, there would be a 2 percent to 3 percent reduction in demand. If all recurring congestion delays were eliminated, there would be a 5 percent to 8 percent reduction in demand.

Tax increases could also result in decreased demand. In 1994, the California Energy Commission estimated that a 20 cpg increase in gasoline taxes would result in a 3.0 percent reduction in 2000 and 3.1 percent reduction in 2010, a 40 cpg increase would result in a 6.4 percent reduction in 2000 and 6.7 percent reduction in 2010, and a 60 cpg increase would result in a 8.3 percent reduction in 2000 and 8.5 percent reduction in 2010.

To put these numbers in perspective, the current demand in California is nearly 40 million gallons per day. Eight percent of current demand is the equivalent of the gasoline production of a medium size refinery. The Conservation Group agreed that significant long-term conservation potential exists.

Methods for Decreasing Demand

In general, the Conservation Group supported long-term measures to reduce gas consumption, rather than short-term measures, such as higher gas taxes, to reduce demand. The Conservation Group agreed that the Task Force should recommend policies to encourage vehicle efficiency, fuel substitution, and alternative modes of transportation. Tax incentives and education are two policy tools that the Conservation Group supported. The Conservation Group agreed that the state should examine its environmental and energy programs and give preference to programs that simultaneously address environmental problems and reduced gasoline consumption. There were differences in opinion about whether the Task Force should consider higher gas taxes as a short-term measure to reduce travel demand. Some Members voiced concerns that while sufficiently high gas taxes could reduce demand, such a solution may not be politically acceptable.

Also, the Conservation Group raised concerns regarding fairness of higher taxes on drivers and that higher taxes could hurt independent refiners and marketers.

Arguments in Favors of Conservation Measures

The immediate benefit of reducing demand is that it has the effect of obviating the need for additional gasoline supplies. There are also other consumer and societal benefits from energy conservation. For example, the Union of Concerned Scientists has estimated that California drivers could save as much as \$3.3 billion per year if light trucks (a category that includes sport utility vehicles, pickups and minivans) were as fuel efficient as passenger cars. Other benefits include reductions in global warming emissions, environmental and public health benefits, including air and water quality benefits, reduction in oil spills, and an improved balance of payments.

Arguments Against Conservation Measures

Most concerns about potential conservation measures focus on the cost and methods of program implementation, relative to the potential benefits associated with reduced demand. The cost-benefit analyses of many conservation measures continue to be debated in other regulatory venues. Task Force members generally agreed that conservation issues are worthy of further analysis and debate.

Task Force Evaluation of Marketing Issues

The Preliminary Report to the Attorney General noted that California's gasoline industry has become more consolidated in recent years. Fewer refiners now produce a larger percentage of the state's gasoline consumption than in the first half of the 1990s. This has largely resulted from:

- An increase in the number and scale of mergers and acquisitions.
- Geographical and structural factors that can impede potential suppliers from competing in California.
- Recent losses of independent refineries in California.

The Preliminary Report noted that integration has increased along the gasoline supply chain in California. California refiners own or control the properties of the vast majority of the state's retail outlets. These refiners also supply many of the state's independent distributors through long-term branded supply arrangements.

The Preliminary Report stated that the increase in concentration and vertical integration in California has resulted in a market that is not as competitive as the nation's other markets.

The Task Force was charged to consider the impacts of industry consolidation, integration, and pricing relationships along the supply chain. Issues the Task Force considered that relate to diversification of supply are fully discussed in the Supply Section of this report. This section recounts the issues and proposals considered by the Task Force with respect to market structure and practices, and gasoline pricing.

Gasoline Production and Distribution in California

Although similarly structured as other markets, the gasoline industry in California is more concentrated and vertically integrated than gasoline industries in other key refining areas of the United States. Chart 6 shows the refining centers in California and lists the refiners that can produce gasoline. In California in 1990 the refinery market share of the largest seven branded refiners was less than 80 percent.²⁶ Today, just six refiners control 92 percent of the state's gasoline refining capacity (Chart 7).²⁷ These same six refiners account for more than 90 percent of the gasoline consumed in the state.²⁸ Chart 8 illustrates that independent marketers supply less than 10 percent of the gasoline consumed in the state.

²⁶ Source: Pacific West Oil Data.

²⁷ Source: *Oil and Gas Journal* 2000 Refining Survey.

²⁸ Source: Pacific West Oil Data.

The degree of concentration in the California market stands in sharp contrast to other key refining areas. In Texas, for example, the largest six refiners control less than 60 percent of the refining capacity, and independent marketers sell more than 50 percent of the gasoline consumed in that state. In addition to consolidation, the gasoline industry in California has become more vertically integrated than in the past, with a few companies owning, or controlling through contracts, more downstream channels, including refining, wholesaling, marketing, and retailing. This means that a very small number of companies own and control the vast majority of the facilities needed to make, market and deliver gasoline in California, such as refineries, service stations, tanker trucks, marine terminals, and storage facilities.

California's refiner-to-consumer distribution system is shown in Chart 9. As independent retailers such as Thrifty have recently left the California market, the percentage of gas stations that sell refiners' branded gasoline has increased. According to members of the Task Force, approximately 70 percent of California retail stations are operated under station lease agreements with a major California refiner. Such dealers are known as "lessee-dealers." These leases are typically predicated on supply agreements, with a three-year term, that require the lessee dealers to purchase their gasoline supplies exclusively from their branded refiner. The refiners, in turn, bear the responsibilities customarily attendant to an owner/lessor.

Approximately 15 percent of the stations in California are both owned and operated by refiners. However, the percentage of stations that are owned and operated by refiners varies considerably from brand to brand. Some Task Force members allege that there is an increasing trend towards refiner owned and operated stations in the state. Other Task Force members noted that in recent years some petroleum companies have sought to leave retailing, and suggest that the gross number of stations owned and operated by petroleum companies may be declining.

The remaining 15 percent of all California stations are owned and operated by independent dealers, known as "open dealers," or "jobbers." A large portion of these independent dealers enter into "branding arrangements" with a refiner or a branded jobber that allow them to sell a refiner's particular brand. These contracts typically have terms of at least three years, and some members of the Task Force noted that branding agreements may have terms as long as 10 years.

Jobbers are intermediaries who market branded and unbranded gasoline. Often, jobbers own retail stations. Branded jobbers may sell a particular refiner's branded gasoline or an unbranded supply through the stations they own and operate and to independent stations. Jobbers sometimes make loans to independent dealers for station improvements in exchange for long-term supply agreements that serve to repay the loans. To the extent jobbers sell to lessee-operated stations of major brands, the lessee-dealers are typically located outside metropolitan areas. In metropolitan areas, the vast majority of lessee-dealers cannot receive supply from a branded jobber because they have an exclusive supply agreement with refiners. Jobbers who sell branded gasoline must contract with the

refiner of that brand for all their supply. Several Task Force members noted that with increased industry consolidation and the loss of independent refiners in California, independent jobbers' and dealers' branding arrangements with refiners are more common because they better assure the jobbers and dealers of a source of supply.

Some Task Force members suggested that "hypermarketeters" are causing an increase in the proportion of independent stations. Hypermarkets are gasoline fueling stations at large supermarket chains and other nontraditional gasoline retailers, such as Costco and Albertson's. This segment of the retail gasoline market, with lower-than-average prices, has grown in recent years. Costco operates 22 stations in California and plans to expand to 100 in the next few years;²⁹ Albertson's operates 26 stations in the state and intends to expand its fueling station operations.³⁰ Some Task Force members believe these stations will expand competition, reduce vertical integration, and lower prices in California. The Task Force members point to Europe as an example of lower prices resulting from entry of hypermarketeters such as Costco.

Other Task Force members held the position that the impacts of hypermarkets in the California gasoline market is uncertain. These Task Force members presented statistics showing Costco's market share in California is currently less than 1 percent. Even assuming the planned hyper-mart stations are realized in California, these stations would likely represent only a small fraction of the total number of gasoline stations in the state. There is also the tendency for hyper-mart gasoline retailers to team with refiners under branding arrangements, and thus could minimize any competitive gains by hypermarket participation.³¹ Some Task Force members thus question whether these new entrants will dislodge the established players in California as easily as they have abroad.

Wholesale and Dealer Pricing

As a result of the relationships between California's refiners and retailers, not only do six refiners produce 90 percent of the gasoline consumed in the state, they also supply approximately 85 percent of it pursuant to contracts that specify wholesale prices to dealers. Refiners sell branded gasoline to lessee-dealers at what is called the Dealer Tank Wagon price (DTW). The same refiner may have many different DTW prices in a single metropolitan area. Under these supply agreements, dealers are not permitted to purchase gasoline from any source other than the refiner from which they bought their franchise.

Moreover, dealers are not permitted to arrange for purchases of branded gasoline directly from the refiner's at the "rack price." Rack price is the wholesale price charged by a refiner for gasoline distributed to tanker trucks at the refinery terminal. The rack price is almost always lower than the DTW price for the same brand. The DTW price is almost always greater than the rack price plus the cost of distribution to the dealer's point of sale. However, contracts with refiners prohibit dealers who lease stations from purchasing

²⁹ *Oil Daily*, August 1999.

³⁰ *Supermarket News*, April 1999.

³¹ *Enterprise Business Newspaper*, January 2000.

gasoline at the rack price and independently arranging for delivery to their stations as a way to lower their delivered cost of supply.

The Preliminary Report to the Attorney General also noted large dealer price differences among California regions. Between 1997 and 1999, DTW prices in Los Angeles averaged 3 cents more per gallon than branded rack prices. But in San Francisco, DTW prices averaged 14 cpg above branded rack prices. Chart 10 shows the relative rack, DTW and retail prices between Los Angeles and San Francisco. The chart illustrates that while branded rack prices in Los Angeles and San Francisco are comparatively close, there is a wide divergence in the DTW and retail prices between the two regions. This difference has increased since 1995.

Zone Pricing

Zone pricing is a gasoline marketing practice by which refiners establish different DTW prices among “zones” within the same geographic area due to the nature of competition in each area. For example, a refiner may sell to Dealer A at a lower price than it sells to Dealer B in the same city when Dealer A has a low-price independent competitor nearby (and Dealer B does not). Zone pricing also results in a wide price disparity among cities that are served out of the same terminal. ARCO, in a presentation to the Task Force, noted, however, that differences in DTW prices within a zone often do not directly translate into retail price differences. ARCO presented a survey to the Task Force showing that differences in retail prices at ARCO stations in San Diego were not explained solely by differences in DTW prices.

Historically, refiners typically sold to their dealers throughout an entire city or major geographic area at the same price, with allowances for volume. Accordingly, if a refiner desired to match the prices set by low-price independents, it would have to lower its price to all dealers in the city, rather than just to those dealers with low-price independents nearby.

Today, refiners often establish numerous price zones within a large city, even though the entire city is served from a single terminal and the cost of delivery to dealers in each zone is nearly identical. Some Task Force members noted that a zone can consist of a single street corner. It is common for DTW prices in different zones within the same city to differ by as much 10 cpg, with dealers located near independents receiving lower prices than dealers further removed from the influence of independents. Through zone pricing, refiners may fine-tune pricing in specific areas and isolate the impact of low-price independent retailers and other brands. Some Task Force members claim that this practice is fairly unique to refiners and would be considered an unusual practice in other industries. The Utility Consumers Action Network (UCAN) noted the price of a Big Gulp soft drink is typically the same across stations in a metropolitan area, yet the price of gasoline may vary more than 10 cpg for a given brand.

Margins

Chart 11 shows weekly estimates by the California Energy Commission of crude oil costs, gross refining margins, and gross dealer margins in California from 1999 to the first quarter of 2000. Gross refining margin is the difference between the rack price and the cost of crude oil.³² The retailer margin is the difference between the price at which a dealer purchases and sells gasoline. As with refinery margin, retailer margin is a gross figure and must cover a dealer's operating costs such as rent and wages.

Retailer margins in California are typically under 10 cpg and remain fairly constant. Refinery margins are more volatile. As Chart 11 shows, refinery margins sharply increase during price spikes and decrease when the cost of crude rises. Alternatively, dealer margins drop sharply during price spikes or when refinery margins increase. The chart shows that with the rise in crude oil costs in the past several months, refinery margins recovered more quickly than did retailer margins, according to the California Energy Commission. This is a typical pattern.

Regional Price Differences

The Preliminary Report noted that cost differences did not explain why retail prices in Northern California were significantly more than Southern California. Chart 12 shows that prior to 1996, price differences between California's major cities were always less than 10 cpg. The average retail price difference between San Francisco and Los Angeles has widened considerably over the past several years to more than 20 cpg by 1999. The retail price differences between major California cities from January through March 2000 changed little from 1999 levels.

Task Force members expressed several opinions on the causes of regional retail price differences. Dealers cited relatively higher DTW prices as the cause of higher retail prices, particularly in the San Francisco area. Although spot price and rack prices remain close, Chart 10 illustrates that DTW Prices have been higher in San Francisco than in Los Angeles in recent years. This difference in DTW prices is roughly the same as the difference in retail prices between the two regions until August 1999. As noted in the Preliminary Report, the growing DTW and retail price spread shown in Chart 10 is puzzling because San Francisco refiners typically produce more gasoline than is needed in Northern California and export surplus to other regions in the state. In contrast, Los Angeles refiners do not typically produce enough gasoline to supply the area they serve and must import from refiners in San Francisco and elsewhere. Dealers believe this may be due to higher margins earned by refiners who market gasoline in the San Francisco Bay Area.

³² This figure is not equal to profit since it does not subtract out the cost of operating the refinery. In addition, the figures shown here are estimates and do not necessarily reflect actual margins for any particular brand. However, changes in the refinery gross margin figures will approximate changes in overall refiner profitability over time in California.

Other members of the Task Force, such as WSPA, suggested that regional retail price differences reflect differences in consumer responsiveness to price change. John Umbeck, Ph.D. of Purdue University presented a study³³ to the Task Force suggesting that California's regional price differences are attributable to differences in the price elasticity of demand between consumers in the regions. According to Professor Umbeck, the reason that prices are lower in Los Angeles than they are in San Francisco and San Diego is that the station density³⁴ in Los Angeles is higher than the other areas. Higher density lowers Los Angeles consumers' cost to "comparison shop" and increases their sensitivity to price changes, according to the study.

Some members of the Task Force questioned some of the findings of the study. Questions were raised regarding the duration of the price changes used in the study. Questions were raised regarding the change in relative station densities over time and whether the analysis would have found consistent results during the early 1990s when price differences between California's major cities were smaller.

Moreover, those Task Force members representing dealer interests suggested that the study is misleading because it only measured the price response of ARCO consumers. Dealers argued that consumers who typically shop at traditional low-price stations such as ARCO may be more sensitive to price changes than those who shop the major brands, and the study did not evaluate major brand consumers. Dealers also stated regional price differences were primarily the result of wholesale price differences that the study did not evaluate.

³³ The study, presented at the March 31, 2000 meeting, was underwritten by WSPA and executed with the direct cooperation of ARCO.

³⁴ Professor Umbeck estimated station density as the number of retail stations in a given radius.

Gasoline Marketing Proposals

In response to vertical integration and wholesale pricing issues, two subcommittees of the Task Force, one chaired by Tim Hamilton and one by Dennis DeCota, presented several proposals to address the ways gasoline is marketed in California. One proposal was directed at wholesale marketing, while others were aimed at retail marketing. While each proposal was separately presented, both chairs noted that for optimal impact the proposals should be considered jointly, as one whole package.

The primary proposal was directed at increasing competition at the wholesale level by instituting “branded open supply.” Other proposals were to (1) eliminate refiner zone pricing practices in setting their DTW prices to lessee dealers and open dealers and (2) lessen the degree of vertical integration to encourage competition at wholesale supply levels through either divorcement or divestiture. Proponents argue that these policies could work in concert with a policy of open supply.

1. Branded Open Supply

“Branded open supply” eliminates exclusive purchasing agreements between refiners and lessee and open dealers. The dealers would have the option of taking supply directly at the refiner’s rack, at the refiner’s tank wagon, or from a jobber supplying the refiner’s brand. Two slightly different branded open supply proposals were raised by members of the Task Force. Under the first proposal, lessee-dealers and open dealers could purchase branded supplies directly from any of the branded refiner’s terminals. The second proposal would limit dealers to buying branded supplies from the terminal that has historically supplied them, either through the refiner or jobbers supplying the refiner’s brand of gasoline.

Proponents of branded open supply argue that it will improve competition at the wholesale pricing level by eliminating potential barriers to entry into the market because dealers will be able to choose a source of supply rather than be restricted by the exclusive purchasing agreements between refiners and dealers. Branded open supply could particularly increase competition at the wholesale level in metropolitan areas since branded jobbers would have the opportunity to supply lessee-dealers in metropolitan areas, rather than being restricted to remote territories.

Arguments for Branded Open Supply

In a competitive market, buyers and sellers are free to seek out one another in order to find their best opportunity. Competitive markets are thus typified by a lack of barriers, whether contractual, physical or structural, between buyers and sellers. Where barriers exist, prices may rise above a competitive level. Proponents of branded open supply argue that contractual supply agreements governing wholesale supply of branded gasoline prevent dealers from obtaining the lowest cost source of supply. Branded open supply

would encourage competition because it removes the contractual barriers that prevent dealers from shopping for the lowest possible cost gasoline supply.

In many cases, instead of paying the DTW price, dealers could lower their acquisition cost for gasoline by purchasing directly from the refiner's rack (at the lower rack price) and arranging their own transportation or from a jobber carrying the refiner's brand. This would allow dealers to take advantage of the lowest cost supply available, whether the rack, the DTW, or a branded jobber. With lower supply costs, dealers would be able to lower their pump prices to consumers to profitably increase their market share.

Proponents of branded open supply argue that it would enhance wholesale competition by expanding the opportunity for low-cost independent jobbers to serve dealers outside their current areas. Jobbers could be a desirable supply alternative to dealers under branded open supply because jobbers have the equipment needed to transport gasoline supplies from the rack and could negotiate for large volume, cost-based discounts. Refiners seeking to maintain market share or to match the prices offered by independents to dealers would be forced to lower prices to dealers.

Finally, proponents argue that branded open supply also would limit refiners' ability to engage in "zone pricing" practices in different areas or cities. (See the Zone Pricing section below for other proposals considered by the Task Force to prevent zone pricing.)

Arguments Against Open Supply

Removal of Rent Subsidies

The Western States Petroleum Association (WSPA) and the California Independent Oil Marketers Association (CIOMA) suggested that branded open supply would eliminate not only the contractual supply relationships between suppliers and dealers, but also the investment relationships that enable suppliers to subsidize rents charged to lessee dealers. For example, without a contract that guarantees the dealer will purchase from a particular refiner, a refiner would be forced to raise its rent to the dealer to "market levels" so that it can recoup its property investment. If supply contracts are abrogated, a similar argument would apply to jobbers' recoupment of their investments made in stations.³⁵ The result of this, according to WSPA and CIOMA, will be an overall increase in retail prices. WSPA also contends that without supply contracts, "affected suppliers will be forced to rethink the wisdom of making future investments in service stations."³⁶

³⁵ "Open Supply Concerns," California Independent Oil Marketers Association.

³⁶ Letter from John Geoghegan regarding the legislative proposal circulated by Tim Hamilton, dated March 29, 2000.

Logistical Problems Due to Branded Open Supply

WSPA states that “allowing jobbers to deliver to direct-served stations would lead to logistical complications at supply terminals which would encourage supply run outs.”³⁷ In short, there is a concern that branded open supply would lead to a “run” on the rack with the lowest price. Some Task Force members disagreed with WSPA on this matter believing that if dealers and jobbers were restricted to taking supplies at the terminal that historically supplied them, the volumes sold at each terminal would not change appreciably.

CIOMA expressed concern³⁸ that allowing dealers to take supplies at the rack would disadvantage jobbers when negotiating with refiners and with their dealer customers. Without contracted volumes, CIOMA indicated that jobbers may not receive favorable prices and also may not be guaranteed sufficient supply. According to CIOMA, the uncertainty regarding price and volumes would work to drive prices higher than they currently are.

Price Equalization

Concerns were expressed by some members of the Task Force that branded open supply would lead a refiner to charge a uniform price at all its racks at a price that is high enough to allow the refiner to recoup margins lost due to branded open supply.

Higher Price Levels

Petroleum companies also expressed that branded open supply would lead to higher wholesale prices due to lost efficiencies in transactions that refiners have with dealers and jobbers. Assuming efficiencies are lost, the potential price savings to dealers from a lower-cost supply would be reduced.

2. Zone Pricing Prohibitions

The Task Force considered whether elimination of zone pricing would reduce wholesale and retail prices, particularly in relatively higher priced areas within the state. One method, called fair wholesale pricing, prohibits refiners from establishing price zones and requires them to charge the same price to all dealers supplied by a given terminal, except that the refiner could add the actual cost of delivery.

³⁷ Letter from John Geoghegan regarding the legislative proposal circulated by Tim Hamilton, dated March 29, 2000.

³⁸ “Open Supply Concerns,” California Independent Oil Marketers Association.

Arguments in Favor of Zone Pricing Prohibitions

Proponents contend that prohibiting zone pricing would increase competition and lower retail prices in certain areas. The prohibitions could also prevent refiners from having *de facto* control over dealer margins. For example, a refiner would not be able to raise the wholesale price charged to dealers in areas that support higher pump prices as a way to capture incremental profit in those areas. Likewise, retailers contend, a refiner would not be able to adjust wholesale prices downward in a certain area in order to drive a rival from that market and reduce competition. Prohibiting refiners from adjusting prices based on local conditions would prevent them from setting the retail margins that lessee-dealers earn. Since dealers then would pay the same cost for supplies adjusted for transportation cost differences, dealers in high price areas may be able to reduce prices at the pump and increase market share without eroding their profit margin.

Petroleum companies claim that zone pricing enables the brand to maintain market share in a specific area by reducing prices in response to price competition from other brands in that area. Some Task Force members noted that petroleum companies receive information on their competitors' pump prices through various reporting services, such as Lundberg. Petroleum companies responded that adjusting prices downward in response to competition in certain areas helps lessee dealers maintain margins and volume sold. In its presentation, ARCO stated that price zones enable the company to meet the standards of the Robinson-Patman Act, which require refiners to sell gasoline of the same grade and quality at the same price to all of their stations in direct competition with each other.³⁹

Retailers argue that petroleum companies create zones not based upon geography but instead upon undisclosed criteria, citing as evidence that different prices are charged to retailers in close proximity to one another and that zones may contain only one station. Zone pricing may enable petroleum companies to adjust DTW prices upward in targeted areas so they can extract higher prices from those dealers and their customers. Retailers thus claim that the objective of zone pricing is to limit competition, arbitrarily increase prices to consumers in certain areas, and fix dealer margins, essentially determined to be the difference between pump and DTW prices. Retailers suggest that by setting dealers' margins, a refiner could effectively increase profit.

Arguments Against Zone Pricing Prohibitions

WSPA contends that prohibitions on zone pricing will lead to higher prices and less competition in certain areas. For example, if the wholesale price charged to dealers in one area could not be lowered in response to market conditions, price competition in the area would be limited. Petroleum companies suggest those dealers would lose retail margins and market share to competitors and consumer prices would be higher.⁴⁰

³⁹ ARCO Products Company presentation to the Task Force on February 9, 2000.

⁴⁰ ARCO Products Company presentation to the Task Force on February 9, 2000.

Additionally, CIOMA claims that fair wholesale pricing may lead to elevated price levels at the rack. For example, a refiner may choose not to set a market price that reflects its cost of production, but instead may choose a higher price that maintains the same total wholesale margins as it earned with zone pricing. A high market price would disadvantage dealers and jobbers in low-cost areas, high-volume jobbers that could no longer receive volume discounts, and all of their customers. However, it is unclear whether uniform pricing across regions could be a viable strategy for refiners since they would stand to lose sales to competitors.

WSPA also expressed concern about price adjustments to different dealers that could only reflect the relative cost of doing business. In particular, petroleum companies stated, “there would be a great deal of difficulty in precisely identifying these various costs.”⁴¹ Petroleum companies specifically point to their practice of subsidizing rents charged to lessee-dealers, with the understanding they would recoup lost rent through sales to their dealers.⁴² Petroleum companies fear the adjustments allowed under Fair Wholesale Pricing may not enable them to fully recover their costs, and possibly deter them from future station investments.

Petroleum companies also noted that federal and state laws explicitly forbid price fixing or zone pricing that lessens competition,⁴³ making zone pricing prohibitions unnecessary.⁴⁴

Others on the Task Force expressed concern that refiners may attempt to increase their non-fuel charges, such as rent to lessee-dealers, in order to fully recoup all profits lost under fair wholesale pricing. Potential competitive benefits from zone pricing prohibitions would then not be realized.

3. Divorcement & Divestiture

Some members of the Task Force believe the key to enhancing competition at the retail level is to eliminate vertical integration by petroleum companies. The concern about vertical integration has come largely from lessee-dealers and independent dealers who note the rise in past years of the proportion of company-operated stations.⁴⁵ The Automotive Trade Organization of California (AuTOCA) asserts, “the combination of volumes sold through company-operated stations and exclusive branded franchises protects the refiner that maintains higher prices from the discipline of losing market share.”⁴⁶ Under divorcement and divestiture theories, the “grip” refiners allegedly have on the market due to vertical integration can be eliminated by prohibiting refiners from selling to the retail market.

⁴¹ Letter from John Geoghegan regarding the legislative proposal circulated by Tim Hamilton, dated March 29, 2000.

⁴² Letter from John Geoghegan, dated March 29, 2000.

⁴³ California Business & Professions Code, section 21200.

⁴⁴ Letter from John Geoghegan, dated March 29, 2000.

⁴⁵ ARCO, which recently acquired more than 250 Thrifty stations, has the largest portion of company-owned stations

⁴⁶ “The State of the Industry: The Case for Divorcement in California,” AuTOCA presentation.

Divorcement

As previously described, California's retail gasoline market is unique in that most of the refiners whose brands appear on stations (e.g., ARCO, Chevron, Mobil, Shell) own and supply most of them. Under divorcement, branded stations in California could only be operated by lessee-dealers or open dealers. Stations could not be owned and operated by the refiner. Accordingly, refiners would no longer directly set pump prices at California gas stations.

Divorcement was first enacted in Maryland in 1974, with Connecticut, Delaware, Hawaii, Virginia and Nevada subsequently enacting some form of retail divorcement.

Divorcement ordinances have also been considered in San Diego County and San Francisco. The terms of retail divorcement legislation and proposals vary considerably. In some cases, oil companies are required to divest their company-operated stations through either lease (the most common method) or sale. In other cases, the prohibition applies only "going-forward," and existing company-operated stations are exempt from divorcement.

Divestiture

Retail divestiture goes beyond divorcement because it also requires refiners to divest their lessee-operated stations. Since lessee-operated stations account for approximately 70 percent of the total,⁴⁷ a far larger portion of California gas stations would be affected under divestiture than under divorcement. By essentially converting all stations to open dealers, refiners would no longer be able to tie dealer gasoline supply agreements and the DTW prices to lease agreements. Open dealers could obtain supply from the least costly source, whether refiner or jobber. But an open dealer that sells branded gasoline could only receive gasoline from that particular refiner or from a jobber that sells that brand. Thus, lower prices to open dealers are only likely if sufficient competition exists at the wholesale level supplying the branded gasoline. (See section on Branded Open Supply, above, for detail.)

States and cities that have required limited forms of station divestiture have seen increased price competition. For example, the State of Hawaii required Texaco to divest all of their Honolulu assets upon their merger to form Equilon in early 1999. As a result, competitors lowered their prices across the board by up to 13 percent.⁴⁸ Prices in Hawaii have remained relatively constant since. San Diego also experienced an overall price decrease with the divestiture of nearly 40 Shell and Texaco stations as part of the same merger. As shown in Chart 12, San Diego prices declined and began to track Los Angeles prices more closely following the divestiture in 1999.

⁴⁷ Source: California Service Station and Automotive Repair Association.

⁴⁸ *Hawaii Business Magazine*, September 1999.

Benefits Associated with Retail Divorcement and Divestiture

Both divestiture and divorcement seek to increase competition by eliminating direct refiner control of the retail market. In a market such as California's, with a small number of companies that also own and/or operate many retail outlets, there is concern that competition is inherently limited to those refiners. Independent marketers, retailers, and consumers may lack buying power when purchasing supply from integrated refiners. Task Force proponents argued that by breaking refiner "control" of the retail segment, divestiture would increase the ability of independent marketers and retailers to shop both in and out-of-state for gasoline supplies, thereby inducing competition at the rack and tank wagon. As pointed out by some members of the Task Force, the effectiveness of this proposal would be greatly enhanced if combined with branded open supply.

The impact of increased competition under divestiture or divorcement may be lower prices, particularly in relatively high cost areas. By increasing independents' leverage in purchasing supplies from in-state refiners, as well their ability to secure supplies elsewhere, marketing prices are likely to decline, leading to lower consumer prices at the pump. High cost areas, with relatively higher marketing margins, are likely to see the largest price decreases.

Concerns About Retail Divorcement and Divestiture

Some members of the Task Force expressed concern that integrated petroleum companies can subsidize company-owned retail outlets by selling them gasoline at a lower cost than they do to their lessee-operated stations and branded independents dealers. These members argue that divorcement would prevent the possibility of integrated petroleum companies from engaging in such pricing practices, which can result in driving independent dealers out of business and ultimately dampen retail competition.

As with branded open supply, refiners claim that divorcement and divestiture would not lower prices to consumers, but rather would reduce operational efficiencies and lead to higher consumer prices. Petroleum companies believe efficiencies in the transactions between refiners and company-operated and lessee stations they supply would be lost. This, they contend, will lead to higher wholesale prices. Assuming there are efficiencies that would be lost, the potential price savings to dealers from finding a lower cost supply source would be reduced.

Integrated petroleum companies also argue that in addition to causing higher consumer prices, conveniences often associated with company-operated stations, such as longer service hours and more customer services, will be lost with retail divorcement.

The Task Force noted a variety of studies of divorcement policies in other states. Some studies suggest that divorcement has led to lower retail prices, while others suggest it has not.⁴⁹

⁴⁹ See: (1) *Oil & Gas Journal*, November 9, 1998; (2) "A Case for Divorcement and Fair Wholesale Pricing in California," presented by AuTOCA and the CSSARA to the Task Force on February 9, 2000; and (3)

WSPA denies the unfair pricing allegations of divorcement proponents.⁵⁰ Because only 15 percent of California's retail stations are company-operated, WSPA suggests it is unlikely these stations significantly impact gasoline prices or the level of retail competition in California. Refiners therefore conclude that there is no need for "remedial action" such as retail divorcement. But the ability of company owned and operated stations to impact price depends not so much on the percentage of company-owned and operated stations, but on their sales volumes relative to others. The Task Force did not receive information on the sales volumes of company-owned and operated stations when compared to others.

Finally, opponents point out significant contractual and constitutional factors to consider with divestiture, because refiners would be required to sell retail properties and supply agreements with their lessee-dealers would be abrogated. Refiners claim that these lease and supply arrangements provide the only means for them to recoup investments made in their lessee-operated stations.

"White Paper on Retail Divorcement in Oregon," prepared for WSPA, April 7, 1997, among others.

⁵⁰ "Facts about Proposed Gasoline Marketing Regulations" presented to the Task Force by WSPA, dated February 8, 2000

California Motor Vehicle Fuel Taxes: Issues and Proposals

As noted in the Preliminary Report to the Attorney General, California's somewhat higher sales tax is a factor that influences California's gas prices. In addition, members of the Task force noted that California tax collection policy may impede independent marketers from storing inventories of gasoline. These two issues were reviewed by the Task Force subcommittee chaired by Evelyn Gibson of the California Independent Oil Marketers Association that looked at barriers to increasing supply. The Task Force also acknowledged the Attorney General's proposal for an excess profits tax on refiner margins, but not in detail.

1. Motor Vehicle Fuel Tax

The Preliminary Report to the Attorney General found that somewhat higher taxes were a factor contributing to the difference between gas prices in California and the rest of the nation. The report also found, however, that while taxes accounted for some of the price differential, they do not explain the large disparity in gasoline prices among certain areas within the state. Moreover, the majority of the difference between California and the rest of the U.S. is due to factors other than taxes.

A subcommittee concluded that higher gasoline prices in California were closely linked to frequent imbalance of supply and demand. But the group also noted that California's sales tax results in California consumers paying 5 cpg or 6 cpg over average U.S. state and local tax⁵¹ The subcommittee report stated the belief that repealing this tax would immediately reduce gasoline prices to the consumer. Others on the Task Force disagreed, noting that any reduction in the motor vehicle fuel tax in the supply-constrained California environment would primarily benefit refiners rather than consumers.

During the period that the Task Force was meeting, a proposal to reduce retail gas prices by repealing the state fuel tax was debated in the California Legislature. The Attorney General appeared at one oversight hearing and stated his belief that, by itself, repealing the tax would not immediately reduce retail prices. He instead posited that, to directly benefit consumers, the state should consider a revenue neutral proposal that would tax refinery profits at times of huge price spikes and pass this revenue directly to consumers by an equivalent reduction in the state fuel tax. Several members of the Task Force raised concerns about this proposal, claiming that additional taxes would interfere with the market and deny refiners a fair return on their investment.

2. Timing of Tax Collection

Members of the Task Force pointed out a state tax collection procedure might affect the storage of gasoline inventories by independent marketers, because it requires all but in-state refiners to pay sales tax at the first point of distribution, thereby requiring

⁵¹ EIA, Assessment of Summer 1997 Motor Gasoline Price Increase, p.61.

independents to carry this tax expense as a cost of doing business until the gasoline is sold and sales tax collected.

Currently, gasoline taxes are collected at the refinery. This tax is assessed at the first point of distribution and must be paid upon transfer unless the transfer is made to an in-state refiner. Importers who do not have in-state refining operations must pay the tax once the gasoline is brought into the state. Downstream sellers, such as large independent marketers, must pay the tax to the supplier of the fuel upon transfer, usually once it leaves the refinery. For these sellers, the cash flow implications of paying the tax up-front are very high, 36 cpg or \$360,000 for every one million gallons of fuel they purchase. These costs discourage non-refiners from storing gasoline because they are unable to recover taxes until they have sold the gasoline and been paid for it.

Members of the Task Force agreed that timing of tax collection was a legitimate concern and generally supported a proposal to move the point when motor vehicle fuel taxes are collected from the refinery gate to the terminal rack. Such a change would enable some independent marketers to buy gasoline in large bulk quantities without paying motor vehicle taxes to their suppliers. These marketers would instead be able to remit taxes to the state on a monthly basis after the product is sold. These suppliers may have greater incentive to purchase and store gasoline under a changed tax policy, since they would not have to sell the gasoline quickly to recover taxes they have paid. In addition, State Board of Equalization staff do not believe this change in collection practices will increase tax evasion by any significant margin.

ATTORNEY GENERAL'S
COMMENTS
&
RECOMMENDATIONS

Attorney General's Comments

California's businesses and consumers regularly pay among the highest gasoline prices in the nation. Recent price "spikes" caused by refinery outages sent prices above \$2.00 per gallon for self-serve regular gasoline. Regional pricing differences have San Francisco Bay Area motorists paying as much as 20 cents per gallon more than those in Los Angeles, even though the gasoline sold in Los Angeles may well have been refined in the San Francisco Bay area.

These high prices erode the competitiveness of California's industries and reduce the real income of our citizens. The confluence of factors that support high gasoline prices has been a long time in the making, and it is unrealistic to suggest that there is a quick fix to our problem. Even so, it is important to begin taking the steps necessary to increase competitiveness in California gasoline markets, increase gasoline supplies, and further conserve fuel. These initiatives include:

- **Increase Competition and Reduce Prices:** The Attorney General has some power to affect gasoline prices directly. I intend to aggressively use these powers. I have and will review mergers with an eye toward adding new competitors to the California market. I will take all reasonable steps to represent the public interest in disputes affecting gasoline prices. For example, my office recently challenged the legality of a Unocal patent claim to a gasoline formula that could, if enforced, increase prices five cents per gallon. I will act on any genuine opportunity to prevent gasoline prices from climbing higher. While the work of the Task Force is finished, other investigations of California's gasoline market continue.
- **Strategic Gasoline Reserve:** Refiners keep far less gasoline in storage than they did a decade ago. As a result, any refinery outage is now far more likely to cause a substantial price hike. Simply put, the industry's margin for error is smaller than ever. Even a brief disruption of production at a California refinery can spike gasoline prices. To blunt this problem, policy makers should consider a Strategic Gasoline Reserve to be tapped for release to the market when prices begin to spike.
- **Require the State to Purchase Imported Supplies of Fuel for Its Own Use:** State and local governments consume significant amounts of gasoline in police cars, ambulances and other vehicles. By supplying their needs through imports or newly developed supplies in California, government agencies could augment gasoline supplies by two percent or more. This measure could save consumers hundreds of millions of dollars each year.
- **Take Aggressive Steps to Increase Fuel Economy and Use of Alternative Fuels:** There are a number of opportunities to increase fuel economy and to encourage non-gasoline-based technology. Every gallon of gasoline saved by economy or alternative fuel is one that need not be imported or produced in California. These initiatives are an essential part of California's response to supply interruptions, long-term supply needs, and high prices.

- **Free Dealers to Seek the Best Price for Fuels:** Freedom of California retailers and jobbers to seek the lowest priced gasoline is now hampered by a web of restrictive agreements imposed by refiners. These exclusive supply agreements make it impossible for market forces to eliminate regional disparities in gasoline prices. Policy makers should consider banning agreements that frustrate competition.
- **Examine Barriers to Importing Gasoline Via Pipeline:** If we cannot drastically curb demand for gasoline in the near future, California will need new supplies from outside our state. One strategy would extend pipeline access from California to the Gulf Coast and its robust, competitive gasoline market. We should examine the barriers that may exist to pipelines that can bring fuel to California from the rest of the country to facilitate timely use of pipelines to meet our needs.

I believe these initiatives present practical, thoughtful responses to recent gasoline price hikes in California. But they will be criticized by some. The determination to address high gasoline prices and the methods chosen to influence the markets invariably reflect values and philosophy. When markets are not working as they should, government has a role. When those markets affect virtually every business and citizen in our state, it is our obligation to take all reasonable steps to restore healthy and vigorous competition. The measures presented here are designed to do just that while causing minimal impact on the legitimate profit and business interests that participate in our current markets. If these reforms prove insufficient, we may need to go further and review such proposals as mandatory divestment of retail outlets by refiners. The current reforms offer a balanced set of first steps to address longstanding problems in California gasoline markets.

History and Overview of California Gasoline Prices

Introduction

California consumers paid far more for gasoline in recent years than most other consumers in the country. The Attorney General's Preliminary Report on California Gas Pricing issued in November 1999¹ found that in recent years the difference between gasoline prices in California and most of the United States stemmed from (1) a relative lack of competition in the state's gasoline refining and marketing industry, (2) California's unique clean-burning gasoline and distance from potential out-of-state supply sources, and (3) somewhat higher taxes.²

California gasoline prices hit then-record highs during the spring and summer of 1999, and "spiked" far above levels in most of the country. Prices in California then averaged 21 cents more per gallon than in the rest of the country. The Preliminary Report found "prices in California are likely to continue to remain significantly higher than in much of the rest of the country, with periodic price spikes like those experienced in 1999." California's refiners were critical of the Preliminary Report, and claimed the dramatic price spikes of 1999 were unique and not predictive of long-term trends.³

Gasoline prices across the United States rose sharply this spring. The increases were due in part to higher crude oil prices at the beginning of the year. Crude oil prices have risen the same amount in California as elsewhere. But gasoline prices in California climbed much higher than in the rest of the U.S. to a record high of more than \$2.00 per gallon for regular grade in some areas. Prices in California have averaged 21 cents per gallon more than in the rest of the country since March 2000. This spring's unprecedented increase in gasoline prices indicate, contrary to California refiners' views, that the conclusions of the Preliminary Report were sound and that last year's price spikes were far from unique.

The California Gasoline Industry and Prices: 1980s to Present

Gasoline prices in California have not always been higher than in the rest of the country. Chart 13 shows the difference between California retail prices for regular grade gasoline and the average price in the rest of the country each year from 1983 to 2000.⁴ Before the mid-1990s, California prices were typically within a few cents per gallon of the national average and, in many years, were actually lower.

After 1996, California statewide gasoline prices began to rise relative to the rest of the

¹ Preliminary Report to the Attorney General Regarding California Gasoline Prices, November 22, 1999.

² California taxes are approximately five cents per gallon higher than the average gasoline tax in the rest of the U.S. However, even after adjusting for differences in state tax rates, California gasoline prices have been among the nation's highest in recent years.

³ "The Attorney General's Preliminary Report on Gasoline Prices: The Rest of the Story," WSPA, January 12, 2000.

⁴ These figures are adjusted for tax differences between California and the rest of the U.S. Gasoline prices in the U.S. were subject to federal regulation during much of the 1970s. Prices have been completely decontrolled since 1981.

U.S. The increase coincided with two events. First, CARB gasoline was introduced in the spring of 1996, and California experienced the first of a series of price spikes. Except for that first spike, California gasoline prices during 1996 were actually lower than elsewhere.

But it wasn't just the introduction of CARB that affected California prices. The second event was a dramatic change in the competitive structure of the gasoline industry. In the mid-nineties, several independent refiners ceased operation in California. In 1997, on the heels of those closures, Texaco and Shell merged refining and marketing assets to form Equilon; Tosco bought Unocal's refining and marketing assets; and ARCO purchased⁵ Thrifty Oil with 260 retail stations, then one of California's largest independent marketer of gasoline. These mergers and acquisitions dramatically increased the level of concentration and vertical integration in the California gasoline industry.⁶

Chart 14 shows how the structure of California's gasoline industry has changed since 1980 when, of 35 refiners operating in California, the largest six controlled 68 percent of California production. While some smaller refiners ceased operating during the 1980s, the level of concentration of supply changed only slightly. By 1990, only 25 refiners operated in the state, but the largest six still accounted for 68 percent of capacity. By 1998, however, the number of refiners in the state dropped to 16 and, as a result of the 1994 mergers and purchases, six companies controlled 86 percent of capacity.⁷

The degree of integration in the gasoline industry has also increased in recent years. California's refiners own the majority of retail gasoline stations and either lease them to the station dealers who must buy supplies directly from the refiners or the refiners operate the stations. There are relatively few independent marketers of gasoline in California. Although exact figures are difficult to obtain because the data is proprietary, representatives on the Task Force from the Western States Petroleum Association stated that generally California refiners own or operate approximately 85 percent of the state's retail stations. Eighty five percent vertical integration is much greater than in most of the U.S. Independent marketers account for a relatively small portion of gasoline sales in California.⁸ The affect of the changing competitive structure of the California gasoline industry on relatively high prices is discussed in a later section of this report.

Chart 2 shows the difference between monthly average retail prices between California and those in the rest of the U.S. from 1996, when CARB gasoline was introduced, and 2000. During the first three years CARB was used (1996-1998), California prices averaged approximately six cents per gallon higher than in the rest of the U.S. (the

⁵ This purchase was structured through a long-term lease.

⁶ The merger of Exxon and Mobil would have increased the level of concentration in California's gasoline industry even further, but after negotiations with this office and the Federal Trade Commission, the parties agreed to divest Exxon's refining and marketing assets to Valero, a competitor new to California. Likewise, the merger between BP and ARCO will not change the structure of the California gasoline industry since BP did not own any refining or marketing assets in California prior to the merger.

⁷ These companies control more than 90 percent of the capacity for producing CARB gasoline.

⁸ Independent marketers of gasoline account for less than an estimated 10 percent of gasoline sales in California. This is in sharp contrast with many other large states. For example, independent marketers account for more than 50 percent of retail gasoline outlets in Texas.

difference in the wholesale price between CARB and conventional gasoline produced in California has averaged approximately four cents per gallon). The difference between prices in California and the rest of the U.S. more than doubled in 1999 to an average of 16 cents per gallon. California prices were more than 20 cents per gallon higher than the rest of the country during the spring and summer of last year and, at one point during May, the difference was nearly 40 cents. The series of price spikes in the spring and summer resulted in California consumers paying an additional \$1.3 billion for gasoline in 1999.⁹

The difference between California and the rest of the nation narrowed toward the end of 1999 but widened dramatically again this spring. Since March, the average price of a gallon of regular grade gasoline has been 21 cents more than prices in the rest of the U.S.

Regional Price Differences

The comparison of average statewide gasoline prices with the rest of the U.S. somewhat masks the large price differences among areas within the state. While prices in California have increased above prices elsewhere, the impact of those increases has been uneven. Prices have risen by a greater degree in San Diego and northern California than in the greater Los Angeles area.¹⁰

Chart 12 shows the relationship among prices in San Francisco, San Diego, Los Angeles and the U.S. city average price between 1985 and 2000. Prices in all three cities were near the average U.S. price and within a few cents of each other prior to 1990. Since 1999 there is a significantly growing differential. By 1999, prices in San Francisco were more than 20 cents per gallon higher than Los Angeles and 15 cents per gallon higher than San Diego. The price differential between San Diego and Los Angeles narrowed in 1999, coincident with Equilon's divestiture of 29 former Shell and Texaco stations to an independent marketer.¹¹

Since the beginning of 1999, gasoline prices in San Francisco have been higher than any major city in the nation, surpassing even Honolulu.¹² San Francisco prices, just eight cents per gallon higher than U.S. city average prices in 1990, rose to 35 cents per gallon higher in 1999. Since March 2000, San Francisco prices have been 25 cents higher than the U.S. city average price.

The differences between retail prices in San Francisco and Los Angeles are commensurate with the prices charged to retail dealers by the refiners whose brands they

⁹ During the first eight months of 1999, California consumed 9.4 billion gallons of gasoline. On average, the spread between California and the rest of the U.S. was 13.6 cents per gallon greater than it was in 1998. Had the spread between California and the rest of the U.S. remained equal to 1998 levels through August (6.7 cents per gallon), Californians would have paid 13.6 cents per gallon less on average, a total of \$1.3 billion.

¹⁰ Los Angeles, Orange, Riverside and San Bernardino counties. Together these counties account for approximately 45 percent of the gasoline consumed in the state.

¹¹ As a condition of the merger between Shell and Texaco's downstream assets, the 16 former Shell and 13 former Texaco brand stations were sold to New West Petroleum pursuant to an agreement with this office and the Federal Trade Commission. (*Oil Daily*, July 28, 1998.)

¹² During most of the 1990s, Honolulu had been the highest price major city in the U.S.

sell. Chart 10 shows differences in the average prices charged by refiners and by retail operations in San Francisco and Los Angeles.

The Preliminary Report concluded that California consumers are likely to face significantly higher prices in the future than those in the rest of the country, with periodic price spikes due to the structure of California's gasoline industry, the state's unique gasoline formulation, and the growing imbalance between local supply and demand. Several members of the Task Force echoed these predictions, noting that California's current environment leaves the state vulnerable to large future price spikes.

Factors With an Impact on California Gasoline Prices

Several factors contribute to California's higher gasoline prices and differences in prices among areas within the state. These factors can best be explained as falling within two categories: supply and market structure.

Supply of CARB Gasoline

A key factor in rising prices and price spikes in California is the supply of CARB gasoline. Supply of gasoline from California refiners has become increasingly limited in recent years. The demand for gasoline has grown in California and in neighboring states supplied by California refiners. As a result, California refiners have little surplus capacity to cover periods of refinery outages.

The supply situation is exacerbated by the fact that California refiners have reduced gasoline inventories in recent years. Levels have fallen by approximately 20 percent since the early 1990s. Inventory levels are maintained at or near minimum operating levels. As a result, California refiners have little surplus inventory to service supply disruptions, such as interruptions in refinery operations.

Finally, not only is California geographically isolated from refining centers, it also requires a specially formulated cleaner-burning gasoline (CARB). While refiners outside the state have some ability to manufacture CARB, they typically do so only when CARB is ordered, not on a day-to-day basis. This generally occurs only after prices have risen substantially in California. As a result, imports of CARB gasoline from outside the state are slow to arrive during in-state supply interruptions.

Outages and resultant interruptions of production occasionally occur in every major refining center. California, however, is not well situated to cover the resulting loss of market supply. Taken together, the factors discussed above contribute to higher prices in California and can result in dramatic price spikes when in-state refiners experience operational difficulties.

The imbalance between in-state supply and demand for CARB gasoline is likely to grow. It is extremely unlikely that a new refinery will be built in California today. Any addition to California refining capacity will likely have to come from expansion of existing facilities. The phase-out of MTBE in California will also reduce gasoline supplies. MTBE currently comprises approximately 11 percent of California's gasoline supply. Potential substitutes such as ethanol would replace some, but not all, of the MTBE volume loss.¹³ Meanwhile, the demand for CARB gasoline should continue to grow.

Market Structure and Competitive Issues

A second factor contributing to higher prices in California is the market structure of the gasoline industry. California's gasoline industry is more consolidated and integrated than

¹³ *Oxy Fuel News*, September 6, 1999.

in the rest of the U.S. Just six refiners control more than 90 percent of refining capacity in California. Two of those, Chevron and Tosco-76, control nearly half. In contrast, the largest six refiners control less than 60 percent of the refining capacity in Texas, and less than 50 percent of the capacity in states east of the Rocky Mountains.

The degree of vertical integration in California is also greater than in the rest of the nation. The six major refiners in California largely control the distribution channels for gasoline. In addition to refining, they control a majority of the terminal facilities and 85 percent of the retail locations in the state.

There are few independent marketers of gasoline in California. Independent marketers account for an estimated 10 percent of retail gasoline sales. The acquisition of Thrifty Oil by ARCO eliminated one of the state's largest independent marketer.¹⁴ Independent marketers have a much larger presence in the rest of the U.S. than they do in California. Independents such as Racetrac Petroleum, Teco Stores and Sheetz play an important competitive role outside California. These marketers use their considerable buying power to obtain the lowest-cost supply. They are also large enough to import gasoline from other areas if the need arises and are typically more aggressive in pricing lower at the pump than major brand refiners.

Independent marketers have a greater incentive than refiners to import gasoline from out of state during local supply disruptions. Thrifty Oil was a regular importer of gasoline, increasing the state's supply and providing a competitive check on refiners. The independent marketers that remain in California are not large enough to import gasoline. Accordingly, they cannot provide the competitive influence that Thrifty once did, or that independents do in other parts of the U.S.

Independent marketers in California have little influence in metropolitan areas because their ability to distribute to those areas is restricted by the major brand refiners. Refiners typically have contracts with independent marketers that resell branded gasoline to prohibit the marketers from selling that brand in an area that competes with the refiner. Retail dealers (and, in turn, consumers) must purchase their gasoline directly from refiners. Even open dealers (those who own their own stations) typically can only sell branded gasoline they buy directly from a refiner. As a result of these contractual arrangements, independent marketers can bring their buying power to bear in California's major metropolitan areas only by marketing through non-branded gasoline outlets.

Finally, potential importers of gasoline into California face hurdles associated with access to terminal space. There are relatively few independent terminals in California capable of receiving gasoline from a marine tanker and distributing it into the pipeline system. The largest independent terminal in California is GATX in the Los Angeles area. Equilon, the Joint Venture of Shell and Texaco, recently purchased the GATX terminal. The Federal Trade Commission (FTC) and this office are currently reviewing this proposed transaction to determine if it will have an adverse impact on competition.

¹⁴ Thrifty Oil was a regular importer of gasoline into California, effectively increasing supply in the state. Thrifty imported gasoline into California even after the CARB regulations went into effect in 1996.

Taxes

California's gasoline taxes add approximately five cents more per gallon to the price of gasoline than average taxes in the rest of the U.S. Some have suggested eliminating some or all of the tax on gasoline in order to provide relief to consumers during price spikes. Eliminating or reducing taxes will not produce the intended effect of lowering consumer prices in the short run or during price spikes. Reduced gasoline sales tax during a period of price increases due to supply limitations will do little for consumers. Rather, such a tax cut would result in higher margins for the state's refiners and marketers because prices are ultimately set by the interaction of supply and demand. Given California's level of demand, the only thing that will reduce general price levels is an increase in the quantity of gasoline available in the market. A tax cut will do little to increase supply that is constrained by refinery outages and low inventories.

Proposals to Increase Supply

Overview of Supply Proposals

After reviewing the various proposals to address California's supply constraints and the comments of Task Force members, the Attorney General concludes that the following proposals are the most promising and should be pursued.

- State Gasoline Reserve.
- State Import Purchasing.
- Study of Pipeline Connection to the U.S. Gulf Coast.
- Conservation and Alternative Fuels to Mitigate Gasoline Demand.
- Further Study of Independent Refinery Restart and Refining Capacity Expansion.

A. State Gasoline Reserve

California has experienced a number of price “spikes” since 1996 that have followed on the heels of interrupted refinery operations. Short-term supply disruptions sent gasoline prices in California far higher than those in the rest of the nation. Characteristics of California's refining sector exacerbated the level and duration of these price spikes. There is little spare in-state capacity to produce additional gasoline supply when refinery outages occur. California refiners also maintain relatively low inventories that are not sufficient to cover periods of unexpected refinery outages. Imports are slow to come into California and do not appear to be an effective augmentation during a disruption in supply.

Refiners and marketers claim that importing gasoline into California is a high risk measure due to the length of time it takes a cargo to arrive in California and the possibility that prices will fall before the cargo gets here. If that happens the importer may lose money on the imported shipment. Accordingly, prices in California rise far above levels that could support importing gasoline before marketers or refiners are willing to risk price fluctuation that can occur during shipment. The lack of sufficient inventories and the economic risk (and delay) associated with importing gasoline to augment supply during shortages are factors that can be addressed by a state-owned gasoline reserve.

The Attorney General is sponsoring legislation¹⁵ that would direct the California Energy Commission to study the feasibility of, and authorize, a state-owned gasoline reserve. A state-owned reserve within California would mitigate gasoline price spikes caused by short-term refinery problems and yield substantial economic benefits for California consumers.

¹⁵ Assembly Bill 2076 (Shelley)

Review of Issues

For a reserve to be effective it must be large enough supply to have an impact on price and must be released quickly when supply disruptions occur. For optimal affect on market conditions, the release mechanism, or trigger, should be automatic. Moreover, the reserve should be filled from supply sources outside the state so that it does not draw from local supplies and thereby place inadvertent upward pressure on local prices.

Reserve Levels

The reserve should be large enough to adequately insulate California consumers from severe price spikes during disruptions of supply. Among other things, a determination of the precise size of the reserve should take into account the cost of storing gasoline and the probability and likely duration of refinery outages in light of California's recent history of outages. The possible impact of other measures adopted by the state to mitigate supply, as well as current and historic inventory levels, should also be considered. The current legislation contemplates a reserve the equivalent of two weeks' supply of gasoline from California's largest refinery, approximately 1.5 million barrels or 63 million gallons.

Facilities

The state would need to arrange storage facilities for a reserve gasoline supply. There do appear to be sufficient storage facilities available in California and facilities would not need to be built, although some facilities would need to be modified for gasoline use.¹⁶ These include the idled facilities owned by Edison Pipeline and Terminals Corp. (EPTC) in southern California and Pacific Gas and Electric Company in northern California that were once used to store fuel oil. The state could also store some of its reserve in Los Angeles and San Francisco terminal facilities such as GATX and Shore. The state could also use storage capacity at the reserve site or local terminals to store bulk purchases for its own use. (See State Import Purchasing below.)

Storage Life of CARB Gasoline

The long-term storage of gasoline was a key issue discussed by the Task Force. California Air Resources Board personnel think CARB gasoline can be stored for at least six months, and possibly a year or more with careful treatment. Several companies in the U.S. specialize in the manufacture of additives that increase the shelf life of gasoline. These include Betz Petrolite, Nalco and Power Research Institute. It is possible that additives exist or could be developed to extend the shelf life of gasoline beyond one year.

Some Task Force members raised concerns about the different seasonal specifications for CARB gasoline and indicated that if the state had to store both specifications, storage would be more expensive. However, it appears that the state may be able to avoid this problem by simply storing the cleaner-burning (summer) formulation. Additionally, the

¹⁶ While modifying these facilities may not be economic for a private party, modification may be economic for the state given the potential large benefits for consumers.

state could maintain a reserve by periodically “cycling” its tanks.¹⁷ This could be accomplished by having the state purchase product from the reserve (see State Import Purchasing below) or by exchanging product periodically with local refiners or marketers.

Release Mechanism and Replacement of Reserves

To effectively insulate consumers from price spikes, supplies from the reserve must be released quickly into the market. The Reserves Subcommittee expressed concern that any the release of the reserve might engender great political controversy.¹⁸ Accordingly, an automatic release mechanism would be the best way to ensure fair and timely release. The existence of an automatic release mechanism would also “assure” the market that the state will actually augment market supply during crisis periods. This would have a calming affect on the market and also help to limit price increases.

The state would also need to have a mechanism in place to refresh reserve supply. Immediate replacement of reserves would ensure the state’s ability to cushion severe disruptions and respond to ongoing ones. Immediate replenishment would also help calm the market and limit price increases during disruptions.

An exchange program with marketers and refiners could satisfy both the release and replacement issues. The state could offer gasoline from the reserve to any customer at any time in exchange for an equal amount of CARB gasoline acquired from refining areas outside California. The customer would have to arrange delivery to the state’s reserve within a specified time period, for example in the time it would normally take a tanker to deliver additional supplies.

This program has several advantages. Since the state would release product when requested by a marketer of gasoline willing to replace it from an out-of-state source, no pre-specified or arbitrary trigger would be needed. In effect, the market would trigger the release of reserve.

California gasoline marketers and traders would have an incentive to acquire product from the reserve whenever the spot price of gasoline in California rises above the price elsewhere plus the cost of transportation and CARB manufacture. For example, whenever the spot price in California rises to a level sufficient to cover the cost of transportation, local marketers would find the state’s reserve to be the lowest-cost available source.

Exchanging in this way with the reserve also eliminates the “price risk” that California marketers claim prevents them from importing CARB supplies. Because reserve product is available for immediate delivery, California marketers would be able to “lock in” a price by purchasing gasoline in Houston and taking immediate delivery from the state’s reserve. Marketers would simply be obligated to replace barrels when the tanker arrives. Because the marketer would have already sold the product received from the reserve, the marketer would have hedged the price risk inherent in importing without significant cost.

¹⁷ Memorandum to the Task Force from the Reserves Subcommittee.

¹⁸ Memorandum to the Task Force from the Reserves Subcommittee.

The state would of course take proper precautions to ensure that product was actually returned to the reserve in a timely manner. But this risk could be minimized with proper title documentation of shipments in transit.

This program will help to limit the price of gasoline in California to the price in other refining centers plus transportation and the additional cost to manufacture CARB. This price is called “import parity” and is the price expected to prevail during a supply shortfall if California were a more competitive market with many independent marketers of gasoline.

Finally, this program would ensure that the state replaces its reserves automatically when supplies are withdrawn and enables the state to address a prolonged shortfall of supply.

Operation

The reserve should be operated by a qualified contractor familiar with terminal gasoline operations and marketing in California, under the direction of the California Energy Commission.

Net Benefits to California Consumers

Establishing the reserve would require an initial state investment to purchase out-of-state gasoline supply to fill the reserve and perform any necessary modifications of terminal space. The state would also have ongoing expenditures to lease terminal facilities and administer the program. Based on average prices for gasoline in 1999 and preliminary information on terminal modifications and lease rates, the initial cost to establish a 1.5 million barrel reserve would likely be in the range of \$60 million, with annual operating costs of \$7 to \$8 million per year. Assuming the initial purchase of product is financed at current state borrowing rates, the annual cost of the reserve would be approximately \$12 to \$13 million over a 10-year period.

The potential benefits to consumers should far outweigh the cost of the reserve. For example, California consumers paid an additional \$1.3 billion for gasoline during price spikes in the spring and summer of 1999.¹⁹ Had a reserve and exchange program been in place in 1999 and wholesale spot prices limited to import parity, California wholesale spot prices would have been cut an average of eight cents per gallon in the spring and summer of 1999. This translates to a difference of \$600 million dollars in lower gasoline prices at the wholesale level. Savings to consumers might have been even greater since California spot prices would not have risen to the extreme highs they did in 1999. Although retail prices follow spot prices when they rise, they tend to fall more slowly.

While California consumers would almost certainly benefit from the establishment of a state operated reserve, California refiners’ profit opportunities would be limited

¹⁹Preliminary Report to the Attorney General Regarding California Gasoline Prices, November 22, 1999.

somewhat. But they will still benefit from large profit opportunities, because reserve would only be released when prices rise to the level of import parity.

Conclusions

The Energy Commission should develop alternatives and make detailed recommendations on operation of the reserve to address specific operational issues including:

- Optimal reserve levels.
- Best storage locations and modifications needed to those locations.
- Potential sellers into the reserve.
- Storage life of CARB gasoline.
- Costs and benefits to consumers.
- Specific operating parameters (i.e., release mechanisms, contract requirements, refill requirements, establishment of an independent operator and appropriate state oversight).
- Mechanisms for adapting reserve levels or operating policies.
- Environmental issues.

B. State Import Purchasing

Imports of gasoline into California have been insufficient to keep prices from spiking far above those in the rest of the U.S. According to information presented to the Task Force, there are impediments to independent marketers that want to import into the state. Impediments include the risk that prices will change before cargoes arrive in California, the quantity of gasoline required to get a profitable return on imports, and limited access to adequate terminal facilities for distribution.

Given the challenges facing independent marketers, the Attorney General considered what role the state might play in encouraging or facilitating gasoline imports, particularly during supply disruptions. One promising approach is for the State of California to import the gasoline it purchases for its own use. State imports have the potential to reduce the average price of gasoline in California for all consumers.

The Attorney General is sponsoring legislation²⁰ that would direct the Department of General Services to study the potential for purchasing all or part of the state's bulk gasoline requirements from out-of-state supplies. If the state imported gasoline for its own account on a regular basis, it would significantly increase supplies available to California consumers and reduce prices. It also would help reduce the incidence of price spikes by increasing usable refinery capacity in California during outages.

²⁰ Senate Bill 1846 (Speier).

Review of Issues

Bulk purchases of gasoline are currently made by the state and some municipalities, primarily through fuel contracts with independent distributors. Under an import purchasing proposal, the state could import all or part of its bulk gasoline supplies directly from sources in the U.S. Gulf Coast, the Caribbean, or Europe, and arrange for storage space at a public terminal. Additionally, through its current set of distributors, the state could arrange for transportation from terminals to local facilities or for supply exchanges to supply facilities in remote areas. This arrangement would ensure that distributors do not lose the business of performing these services for the state. The state could arrange for imports solely to supply its own bulk needs, or it could purchase imports and arrange for terminal storage with county and municipal agencies.

By purchasing gasoline supplies from sources outside California, the state would reduce the overall quantity of gasoline demanded of local refiners. Given the tight supply-demand balance in the state, a reduction in local demand owing to the state's purchase of supplies from outside California should result in a price reduction to all California consumers. By effectively increasing supply in California, state import purchasing would also reduce the likelihood of a supply shortage and consequent price spike.

Analysis of Potential Benefits

A preliminary review of data indicates that under reasonable import cost projections and conservative estimates of the impact increased supplies would have on prices, state import purchasing should yield significant net savings. Net consumer benefits arising from state purchases are primarily contingent on (1) the cost of CARB gasoline imported to California when compared to locally produced supply, and (2) price reductions to all California consumers from the overall increase in supply in the state.

Had such a program been in effect in 1997 and 1998, the state would have paid about three cents more per gallon for its gasoline than it did by purchasing bulk supplies in state.²¹ Assuming the state purchased 25 million gallons per month, the cost to the state in 1998 to import bulk supplies would have been approximately \$9 million.²² However, because the state purchases would represent an increase in market availability of supply of two percent, prices paid by California's consumers could be expected to fall by two to three cents per gallon.²³ This would realize a total annual savings of approximately \$350

²¹ Assumes purchases made at Houston spot price for federal reformulated gasoline (RFG) plus 11 cents per gallon. This includes transportation plus the extra cost of manufacturing CARB. Transportation for purchases outside the U.S. would be two to three cents less due to use of non-Jones Act vessels.

²² Had such a program been in place in 1999, the state would have saved money on purchases.

²³ This estimate anticipates a relatively large "supply response" on the part of California refiners. That is, faced with the prospect of the state importing its own supplies, California refiners may choose to reduce production levels or export gasoline to compensate. However, it is extremely unlikely that refiners would be able to completely offset state imports. The analysis contained herein assumes that California refiners offset approximately 50 percent of the volume imported by the state.

million. Accordingly, consumers would greatly benefit by the state importing gasoline for its own use.

By effectively increasing supply, the state could reduce the potential for supply shortages. For example, avoiding the price spikes of 1999 would have saved consumers \$1.3 billion.²⁴

State Import Purchasing for Reserve and Other Supplies

A state import purchasing program could effectively be coupled with a state-owned reserve for which the state would purchase supplies to maintain a given level of inventory. The reserve could also serve as a storage terminal for bulk supplies purchased for state use.

Through a terminal or a reserve, the state could market its imported gasoline by selling or exchanging²⁵ any volume in excess of state requirements to gasoline marketers during periods of production shortages for in-state refiners. Thus, in addition to mitigating the potential for a price spike, any incremental imports could be released directly to the market should a price spike occur. Task Force members representing independent jobbers stated that, during a price spike, their costs of supply usually increase first and tend to increase by the largest amount, disadvantaging their customers more than others. Giving independents jobbers the option to purchase imported supplies from the state could redress this problem.

In addition to a reserve, state import purchasing may also be coupled with a pipeline connection to refining centers in the U.S. Gulf Coast. The effectiveness of using a pipeline for state purchasing supply would be largely contingent upon the total volume consumed by state and local agencies (see Pipeline Connection below).

Conclusions

Bulk gasoline imports can significantly reduce overall prices at the pump and reduce the chance of a price spike. The net benefits to consumers will depend on the incremental cost to the state to import supplies, the supply response on the part of California refiners, and the reduction in prices at the pump. Preliminary analysis of data suggests that consumer savings from state import purchasing will likely be much greater than the incremental cost to the state. State import purchasing may effectively be coupled with a state gasoline reserve and/or a state import bulk purchasing program.

The Department of General Services should evaluate the potential for bulk state purchasing of imported gasoline. The department should consider the cost of such purchases, the benefits associated with diversification of supply and benefits to California consumers.

C. Study of Pipeline Connection to the U.S. Gulf Coast

²⁴ Preliminary Report to the Attorney General Regarding Gasoline Prices, November 22, 1999.

²⁵ Similar to the mechanism described in the State Gasoline Reserve section of this report.

California and the West Coast are isolated from refining centers in the other areas of the United States. As a result of its relative isolation, California experiences dramatic price spikes when local supplies are stretched, as in 1999. During supply disruptions, California imports via marine tanker are currently the only alternate source of gasoline supply. However, the ability of imported gasoline to mitigate price spikes is limited due to the cost of transportation and the time required to ship supplies. As a result, prices in California often must rise significantly higher than prices in the rest of the country before imports arrive to make up for a supply shortfall.

California supplies are expected to fall further behind demand with the projected growth in gasoline consumption over the next decade. (Chart 4) An additional supply source will be needed in the coming years to prevent a general shortage.

The Task Force discussed several options for pipeline connection to California. The specific alternatives discussed by the Task Force were:

- Completion of the current Longhorn pipeline in Texas, combined with an expansion of the Kinder-Morgan line running from El Paso to Phoenix and reversal of the Kinder-Morgan line currently carrying gasoline from Los Angeles to Phoenix.
- Conversion of one of the two existing pipelines intended to bring natural gas into California.
- Construction of a new pipeline.

The Attorney General is sponsoring legislation²⁶ that would direct the state to study the feasibility of bringing gasoline into California via pipeline. The study should consider what, if any, actions the state should take to help facilitate increasing California supplies by pipeline, including a study of the permitting process and the affects of the state purchasing gasoline for its own use via a pipeline connection.

D. Expansion of In-State Capacity and Independent Refineries

Supply of gasoline from small independent refineries is no longer available as most have either ceased operations or have not made investments necessary to manufacture CARB gasoline. Closures have increased concentration in the market for wholesale gasoline. Small, independent refiners generally sold their gasoline through independent distribution networks, such as independent jobbers and independent open dealers. Many of these jobbers and dealers now enter into agreements with branded refiners to be assured of adequate gasoline supplies.

Restart of independent refineries and/or increasing independent refinery capacity is another way to increase CARB gasoline supply. Additionally, reentry of independents into the market could increase competition at the wholesale supply level by lessening the

²⁶ Assembly Bill 2098 (Migden).

degree of concentration and integration in the industry with the potential to lower gasoline prices in California.

Independents that want to restart a “mothballed” refinery and large refiners who seek to expand their gasoline production capacity often find the approval process fragmented and cumbersome. There may be opportunities to streamline environmental impact and other permitting reviews before local and state agencies, community groups, and other entities without compromising California’s stringent environmental standards.

Conclusion

While an in-depth discussion of local and state requirements surrounding refinery expansion was beyond the scope of the Attorney General’s Task Force, the state may wish to convene a task force of affected state and local government, industry, and consumer interests to identify specific problems and discuss potential solutions.

E. Conservation and Alternative Fuels to Mitigate Gasoline Demand

As noted by Task Force members, California could also address long-term supply needs by (1) reducing gasoline consumption by improving vehicle fuel efficiency, and (2) increasing supplies by diversifying fuel sources in California through the use of alternative fuel technologies. The Attorney General supports taking steps to ensure the state optimizes conservation and alternative fuel opportunities.

Review of Issues

California is the second largest consumer of gasoline in the world behind the rest of the U.S.²⁷ Without significant improvement in vehicle fuel efficiency or increased use of alternative fuels, California’s demand for gasoline is projected to rise from 14.5 billion gallons consumed in 1999 to 16.5 billion gallons in 2010.²⁸ With additional use of alternative fuels and increased fuel efficiency, gasoline demand is still projected to grow, but only to 15.3 billion gallons by 2010.²⁹ This revised projection is based on electric vehicles constituting roughly 4 percent and natural gas vehicles 1 percent of all vehicles.

There may be potential to do more. For example, upgrading the fuel efficiency requirements for pickups, vans and sports utility vehicles (SUVs) to match those for new cars could reduce gasoline demand by as much as 7.7 percent by 2010.³⁰ Alternatively,

²⁷ California Energy Commission.

²⁸ California Energy Commission.

²⁹ These numbers were derived from California Energy Commission data. They are based on a 1.2 percent growth rate for the first scenario and a 0.5 percent growth rate for the second.

³⁰ California Energy Commission CALCARS model was run with light truck fuel efficiencies match that of new cars for the forecast period 2000-2010.

continued increased rates in the sales of SUVs is projected to increase California's annual gasoline demand by approximately 2.5 percent.³¹

To maximize the potential for conservation and alternative fuel technologies, California should consider the following proposals.

Proposals

Fuel Economy Strategies

Increasing the fuel efficiency of cars and light trucks would reduce demand. Several studies indicate that technologies exist to substantially raise fuel economy of passenger vehicles without sacrificing any consumer attributes, such as performance and safety.³² These technologies include more fuel-efficient engines, lighter weight vehicle materials, and continuously variable transmissions. Hybrid electric vehicles with small gasoline engines to charge their batteries are just coming to the market and offer potential for a 50 percent or more increase in fuel economy when compared to similar conventional gasoline vehicles at comparable prices.³³

The state is at the forefront of policies to encourage the introduction of advanced technology vehicles, especially hybrid electric vehicles. The Attorney General strongly supports the state maintaining its current Zero-Emission Vehicle Program that requires automakers to produce and offer for sale up to 200,000 hybrid electric vehicles starting in 2003. In addition, the state may also consider appropriating funds for a program that would encourage the purchase of hybrid electric vehicles.

The state should support efforts to allow the U.S. Department of Transportation to study ways to improve fuel economy. The federal government sets fleet average fuel economy levels for new cars and light trucks, known as Corporate Average Fuel Economy standards, or C.A.F.E. Unfortunately, light truck C.A.F.E. standards of 20.7 mpg are considerably lower than car standards at 27.5 mpg, and neither have changed in over a decade. For the past five years, congressional budget action has blocked the U.S. Department of Transportation from studying ways to improve fuel economy.

³¹ On Road & Transportation Energy Demand Forecasts for California, California Energy Commission, April 1999.

³² NRC (1992). *Automobile Fuel Economy: How Far Should We Go?* National Research Council, Report of the Committee on Fuel Economy of Automobiles and Light Trucks. National Academy Press, Washington, DC., DeCicco, J.M. and M. Ross. 1993. *An Updated Assessment of the Near-Term Potential for Improving Automotive Fuel Economy.* Washington, DC: American Council for an Energy Efficient Economy. Mark, Jason, November, 1999. *Greener SUVs: A Blueprint for Cleaner, More Efficient Light Trucks.* Berkeley, Calif.: Union of Concerned Scientists. July 1999.

³³ For example, the Honda Insight gets approximately 65 mpg and is now selling for \$18,800 MSRP. The Toyota Prius will be on sale this summer, is estimated to get 55 mpg and will sell for \$20,400 MSRP. Finally, Ford has announced it will sell a hybrid version of its new SUV, the Escape, in 2003 that will get 40 mpg.

Alternative Fuel Strategies

Alternative fuel vehicles that run on electricity, natural gas, liquefied petroleum gas, methanol or ethanol have great potential to reduce demand for gasoline. Many battery operated electric vehicles are already in California's passenger fleet, including vehicles manufactured by Honda, General Motors, Ford and Toyota. Vehicles operated by fuel cell technology also have great potential. This developing technology, pioneered in the space program, operates by combining hydrogen and oxygen to produce electricity and could be used to run an electric vehicle motor. Hydrogen can be stripped from fuels such as natural gas, methanol, or gasoline, allowing electricity to be manufactured when needed and eliminating the need to store it in a battery.

To ensure alternative fuels are utilized to the greatest extent feasible, the state should consider requiring the Energy Commission, along with the Air Resources Board, to prepare a 2010 alternative fuel strategy designed to achieve sustained, orderly introduction of clean, non-petroleum-based fuels and technologies to the state's market. This strategy might include mechanisms such as "fuel pool averaging," under which oil companies would be required to achieve specified percentages of non-petroleum fuels averages in relation to their statewide supply. It could also include an alternative fuel infrastructure development program to support electric vehicles, or other alternative fuel technologies with state investment and other assistance. Finally, it could authorize the Air Resources Board to require automakers to sell new vehicles that operate on non-petroleum fuels and require oil companies to provide alternative fuels at the retail level in proportion to new vehicle production.

Proposals Relating to Market Structure

The Task Force debated the impact market structure and competition have on California's gasoline prices as well as various proposals designed to address those issues.

After reviewing the facts and arguments put forward by the Task Force, the Attorney General believes that the structure of California's gasoline industry is less competitive than in most of the nation. California's gasoline industry has too few competitors. Just six companies account for nearly all of the gasoline refined and sold in California. Moreover, the California gasoline industry lacks significant independent refining or marketing presence that provides an important competitive influence in other markets.³⁴ As a result, California consumers pay more for gasoline than they would in a more competitive environment.

The relative lack of competition in California appears to have a particularly acute affect in the San Francisco Bay and northern California areas, where consumers pay the highest prices in the nation and consistently pay far more for gasoline than consumers in Los Angeles and the southern part of the state. High prices prevail in spite of the fact that San Francisco area refiners produce more gasoline than needed for the area and export surplus to the southern part of the state. In a competitive environment, one would expect to see prices, excluding distribution costs, to be somewhat lower in San Francisco than in Los Angeles. In fact, this is precisely the pattern of prices that exists in wholesale transactions among refiners. However, the exact opposite pattern exists in prices refiners charge their dealers in San Francisco and Los Angeles (see Chart10). The higher prices charged dealers results in higher prices to consumers.

At WSPA's request, Professor John Umbek³⁵ presented an analysis to the Task Force suggesting that the higher level of prices in San Francisco is due to lower "station densities" relative to Los Angeles and San Diego.³⁶ Their analysis suggests that much of the price differences are the result of fewer stations per square mile in the San Francisco (and San Diego) area than in the Los Angeles area. However, this explanation does not seem completely satisfactory. First, the differences in station density levels between the areas are minor.³⁷ Second, the findings do not appear to hold up over time. Third, the

³⁴ A recent University of California Energy Institute working paper titled "Vertical Relationships and Competition in Retail Gasoline Markets: An Empirical Study of the Divorcement Issue in Southern California" by Justine Hastings confirms the important role independent marketers play in making the market more competitive.

³⁵ A Report on an Empirical Study of Retail Price Elasticity at California Gasoline Stations and the Implications of a Uniform Price Rule, Professor John Umbek.

³⁶ Station density is simply a measure of the number of gasoline stations per square mile. Professor Umbek argues that retailers in areas with lower station density face fewer competitors and therefore a more inelastic demand. As a result, prices are higher in these areas.

³⁷ Professor Umbek found densities of 22.2 stations per two-square-mile area in Los Angeles versus 18.2 in San Francisco and 17.4 in San Diego.

study found higher station density levels in San Francisco than in San Diego, suggesting a relationship in prices between these cities that is inconsistent with what exists.

Relative station density levels have not changed between the San Francisco and Los Angeles areas since 1990. If the density theory were correct, we should see large price differences in 1990, similar to the levels we see today. However, we don't see this at all. The difference in prices between San Francisco and Los Angeles in 1990 was just two cents per gallon, while relative station density levels were nearly identical to current levels. In addition, the study found that station density was actually greater in San Francisco than San Diego. However, prices in San Francisco have averaged in excess of 15 cents per gallon more than prices in San Diego since the beginning of 1999.

A more likely explanation for price differences between the areas is the fact that there are fewer wholesale gasoline suppliers to retail dealers in San Francisco than in Los Angeles. There are two fewer major branded sellers of gasoline in the San Francisco area³⁸ and the influence of ARCO, a major seller that offers lower prices than other brands, is much smaller in San Francisco. In addition, difficulty in developing retail sites may make it difficult for new entry into the area.³⁹ Fewer competitors allows refiners to maintain higher dealer tank wagon (DTW) prices in the San Francisco area, which in turn results in higher prices to consumers.

San Diego consumers have also paid more than their Los Angeles counterparts in recent years. While still higher than Los Angeles prices, San Diego prices have declined over the past two years relative to both Los Angeles and San Francisco. One explanation for this decline is the divestiture of 29 Shell and Texaco retail stations to New West Petroleum (an independent marketer distributing gasoline under the Exxon brand) in the spring of 1999.

The Task Force debated several proposals to increase the level of competition in the wholesale gasoline market: branded open supply and retail divorcement and divestiture.

Branded open supply would allow branded dealers the option to purchase gasoline directly from a refiner's branded rack, or from an independent jobber selling the refiner's brand. It would also allow independent branded jobbers to sell to branded dealers in metropolitan areas where they are currently prohibited from competing. Retail divorcement would prohibit refiners from owning or acquiring additional retail stations in California. Retail divestiture would require refiners to sell the retail stations they own to a non-refiner, increasing the number of independent marketers of gasoline in the state.

³⁸ The major brands in San Francisco are ARCO, Chevron, Shell and 76. In Los Angeles, the major brands are ARCO, Chevron, Shell, 76, Mobil and Texaco.

³⁹ Professor Umbek also noted that site development (and entry) may be more difficult in the San Francisco area than in the Los Angeles area.

A. Branded Open Supply

The Attorney General supports a branded open supply proposal that would allow branded dealers that are currently supplied directly by refiners to purchase gasoline from any source selling the brand of gasoline they are required by the refiner to sell. In other words, a Chevron dealer could purchase its gasoline directly from Chevron as it does now, or it could purchase its gasoline from a Chevron jobber if the jobber offered a lower price. This proposal would increase competition in metropolitan areas that are currently the exclusive distribution territory of the major brand refiners, and thereby reduce prices to consumers. It would also reduce a refiner's ability to maintain discrete pricing zones within metropolitan areas.

Review of Issues

Refiners sell gasoline to their lessee-dealers and branded open dealers at a DTW price that includes delivery to the station. Jobbers purchase the same branded gasoline from refiners at the lower rack price. In areas such as San Francisco and San Diego, the difference between the DTW and the branded rack price can be 10 cents per gallon, a difference that is much larger than the cost of transportation from the terminal to the station.

Refiners do not allow their dealers the option of purchasing from the rack and thereby reducing their costs the way that jobbers can. Nor do they typically allow their jobbers to supply branded gasoline to lessee-dealers or open dealers in major metropolitan areas. Jobbers are typically limited to supplying a given set of stations in rural areas. As a result, refiners have carved out exclusive territories for themselves where they are insulated from any potential competition.

Jobbers would provide competition to refiners if they were allowed to sell gasoline to dealers in the refiner's direct-supply areas. Jobbers have more buying power than individual dealers and would be able to bargain for lower prices. This buying power comes from their control of retail stations in other areas and the fact that they have the ability to shop among refiners and switch brands periodically as their contracts permit. If jobbers were allowed to compete for the right to supply lessee-dealers and open branded stations in metropolitan areas, they would be able to use their buying power to obtain lower prices from refiners, which they could pass along to dealers.

Analysis of Industry Objections

WSPA and refiners oppose branded open supply. They claim it would actually increase prices to consumers in some areas. For example, they claim that if San Diego dealers were able to purchase gasoline at the lower Los Angeles rack price, then Los Angeles dealers would have to pay more, increasing prices to consumers in Los Angeles. They also claim that it would interfere with the current efficient operation of their distribution systems, resulting in increased costs and prices to all consumers. Others have argued that branded open supply would not reduce the average level of prices to consumers because

refiners would respond by raising prices to jobbers to compensate for their lost direct sales.

The Attorney General examined these arguments and found them unpersuasive for the following reasons. It is extremely doubtful that San Diego dealers would go to Los Angeles, or a Los Angeles jobber, to purchase gasoline. Rather, they would seek supply from jobbers in San Diego. Unlike DTW price differences between San Diego and Los Angeles, rack price differences between the two areas are close to the cost of transportation from Los Angeles to San Diego. For this reason, there would be no incentive for San Diego dealers to seek supply from the Los Angeles rack, or a jobber operating out of the Los Angeles rack. They could get the same price savings by purchasing from a supplier in the San Diego area.

It is also extremely doubtful that branded open supply would affect the efficient operation of a refiner's distribution network. For the reasons described above, there would not be any increase in the number of deliveries made at the refiner's rack. The only potential change would be the composition of the trucks. There might be an increase in the number of deliveries to jobber trucks at a local rack, but that increase would be offset by fewer deliveries to the refiner's trucks. The distribution system is not so fragile that such a slight change would significantly increase costs.

It is unlikely that refiners could completely compensate for their lost direct supply sales by raising prices to jobbers. While there might be some attempt by refiners to raise prices to jobbers, those attempts would be dampened by the risk of losing their existing business with those jobbers and the existing buying power and brand switching opportunity jobbers have. Jobbers will be very sensitive to price changes since their competition in rural areas is largely from unbranded stations and branded stations supplied by other jobbers.

Additionally, if the concerns raised by refiners prove to have some merit, those concerns could be addressed by an explicit limitation on the jobber's ability to supply dealers out of a terminal other than the one from which it currently takes delivery. In other words, one could explicitly limit a San Diego area jobber from taking delivery in Los Angeles. For the reasons discussed above, such a limitation would not materially impact the effectiveness of branded open supply.

Finally, a policy of branded open supply would limit refiners' attempts to maintain different prices within a city by the use of zone pricing. While other proposals to address zone pricing issues may have merit and warrant further analysis, a policy of branded open supply appears to be the most effective way of addressing zone pricing practices with the least enforcement cost.

B. Divorcement/Divestiture

The Attorney General supports efforts to reduce the degree of vertical integration in the California gasoline industry and increase the number and competitive influence of

independent marketers. This goal is most effectively accomplished through policies that require or encourage divestment of retail stations from existing refiners to independent third parties.

A wide spectrum of proposals fall within the scope of those described as divorce or divestiture. As typically framed, retail divorce requires refiners to convert their company-operated retail outlets to lessee-dealer outlets. A more limited form of divorce would limit refiners' ability to acquire or build new company-operated stations. Divestiture requires refiners to sell all the retail stations they own, including both company-operated stores and franchisees. Retail dealers support divorce and divestiture measures, while WSPA and refiners oppose them. Both parties cite various reports and studies that support their positions.

The Attorney General believes that a key competitive problem in California is the lack of independent marketers with sufficient purchasing power to compete effectively with refiners that market gasoline under their own brand names.

After examination of the facts, studies and arguments made by Task Force members, it is apparent that certain retail divorce or divestiture proposals would instill greater competition in the gasoline market and lower California gasoline prices. Proposals that include refiner divestment of company-operated stations to independent marketers free to negotiate for supply from any source would increase the number of independent marketers in the state, increase competition, and reduce retail prices.

The Attorney General supports efforts to increase the competitive influence of independent refiners and marketers in California and believes all reasonable steps should be taken to effect these changes to benefit California consumers. One means to encourage independent market participation is the continued enforcement of antitrust policies that result in limited divestment of refining and retail marketing assets, such as those implemented by the Attorney General over the last two years. Significant divestment resulting from mergers were 29 gasoline stations in San Diego from Shell and Texaco to New West Petroleum, and the divestiture of Exxon/Mobil's Benicia refinery and northern California marketing assets to a new competitor from outside the state. Other divestment or divorce measures may be warranted over time, but the desirability of exploring such options should await an assessment of the effectiveness of other recommended measures.

GLOSSARY OF TERMS USED IN THIS REPORT

Branded dealer: A service station that sells the brand of a particular refiner. The service station may be owned by a major oil company or owned by the dealer who acquires gasoline from the refiner or from a branded jobber.

Branded distributor or branded jobber: A wholesaler who purchases gasoline for resale under agreement with a refiner and sells the gasoline to service stations it operates or other service stations identified with the trademark of the refiner.

Dealer Tank Wagon (DTW) price: The price at which a refiner sells gasoline to a branded dealer. The price covers the cost of transportation to the station and the cost of branding.

Exchange agreement: A contract between two refiners wherein the two companies trade gasoline. Commonly used in the Western United States, an example of an exchange agreement would be Company A trading Company B 30,000 barrels a day of gasoline. A would provide B the gasoline in San Francisco from its refinery and B would give back the same amount to A in Seattle from its Washington refinery. Exchange agreements often include terminaling provisions.

CARB: Technically, the California Air Resources Board. However, this term is now commonly used to refer to gasoline specially formulated to meet the pollution control standards for gasoline sold in California, which are higher, with limited exception, than in most other parts of the nation.

Open dealer: Typically refers to a station that is owned by the station operator as opposed to a refiner, that is, not a lessee-dealer or company-operated station. Open dealers may sell unbranded gasoline or branded gasoline.

Company-operated station: A service station owned or controlled by a major oil company or a refiner where the company also operates the station through its own salaried employees or under contract with a manager compensated by payment of a commission or fee. The major oil company or independent refiner directly controls the retail pump prices at a company-operated station.

Crude oil: Petroleum as mined from the earth, before it is refined into oil products.

Independent refiner: A refiner that purchases crude oil from a third party. Independent refiners typically sell their gasoline to third parties and do not market much, if any, of the gasoline they produce through retail outlets that they control.

Jobber: A wholesaler that purchases gasoline from a refiner and resells the product to branded or unbranded dealers, as well as to commercial accounts such as state and local agencies. Also known as "resellers."

Lessee dealer: A service station owned or controlled by a refiner wherein the service station is leased to a dealer through a nonnegotiable retail franchise agreement offering gasoline to the public under the brand of the refiner. The station is identified with the

trademark of the refiner and the retail franchise requires the dealer to purchase all of its gasoline exclusively at the refiner's Dealer Tank Wagon price.

MTBE (Methyl Tertiary-Butyl Ether): An oxygenate with high octane and low volatility used in manufactured cleaner-burning reformulated gasoline.

Major oil company, or "major": Typically, a vertically integrated company with crude oil production and refining capacities, which also sells gasoline through service stations under its proprietary brand.

OPEC: Acronym for Organization of Petroleum Exporting Countries, founded in 1960 to coordinate the crude oil production policies of its members.

Preliminary Report: This refers to a report commissioned by the Attorney General prepared by Keith Leffler, Ph.D. and Barry Pulliam. The report, titled Preliminary Report to the Attorney General Regarding California Gasoline Prices, was issued in November of 1999.

Rack Price: The price paid by a jobber for gasoline at refiner's wholesale distribution facility, known as a rack. There is typically one rack price for branded gasoline and another for unbranded gasoline.

Refiner or refinery: A facility or business that separates crude oil into varied oil products. The refinery uses progressive temperature changes to separate by vaporization the chemical components of crude oil that have different boiling points. These are distilled into usable products such as gasoline, fuel oil, lubricants and kerosene.

Reseller: A firm (other than a refiner) that carries on the trade or business activities of purchasing refined petroleum products and reselling them to purchasers other than ultimate consumers. Also known as "jobbers."

Retailer: A firm (other than a refiner, reseller) that carries on the trade or business of purchasing refined petroleum products and reselling them to ultimate consumers.

Unbranded dealer or unbranded independent: A retailer who buys generic (unbranded) gasoline from either jobbers, or directly from refiners, for resale to the public through service stations not identified by a trademark of a refiner. This seller is not tied to any one refiner by an exclusive franchise. The unbranded independent is free to buy from whichever source offers gasoline at the best price.

Zone Pricing: A refiner's practice of establishing different Dealer Tank Wagon (DTW) prices to dealers in the same geographic area. For example, there may be many different DTW prices charged to dealers in Los Angeles, depending on the "zone" in which the dealer is located.