

**INTRODUCTORY REMARKS  
OF MAURICE H. KAYA  
ENERGY, RESOURCES, AND TECHNOLOGY PROGRAM ADMINISTRATOR**

**HAWAII FUELS ANALYSIS INFORMATIONAL BRIEFING  
JOINT HOUSE – SENATE HEARING**

Tuesday, January 28, 2003  
1:30 p.m.  
State Capitol Auditorium

Good afternoon Chair Morita and from the Senate, Chairs English, Menor, and Kawamoto. And, from the House, good afternoon, Chairs Hiraki, and Souki. Thank you for this opportunity to provide this interim report on the Hawaii fuels analysis, required and funded by the legislature, under Act 77 enacted last year.

We are here today to offer presentations of the preliminary findings of the comprehensive analysis. Our expert consultants have been onboard since early November. The scope and breadth of the analysis requires us to provide this interim report, as we expect to complete the effort later this year.

As you know, a major provision of Act 77 calls for an expert comprehensive, empirical examination of Hawaii's petroleum market and policy analysis of the efficacy and appropriateness of the Act 77 price cap mechanisms and other relevant provisions. The analysis is assessing alternative policies and other options available to the State of Hawaii. The outcome is to offer recommendations aimed at achieving fair and reasonable gasoline pricing for Hawaii's consumers.

Among the Act's several major provisions, gasoline price caps are scheduled for implementation on July 1, 2004. Resources were appropriated for DBEDT to hire expert consultants, and direction given to work with the Attorney General's Office and Legislative Reference Bureau, as well as other appropriate organizations to conduct the analysis.

The Legislature directed that the analysis, at a minimum, conduct the following major tasks:

- Review and analyze unsealed documents in *Anzai v. Chevron, et al.*, and other relevant publicly available reports and references (State's gasoline antitrust litigation settled 4/30/02);
- Gather and analyze empirical data to determine whether the Oil Price Information Service (OPIS) index or other appropriate benchmarks are applicable to Hawaii's markets;
- Review options available to the Legislature, including wholesale and retail gasoline price caps and the potential effects of imposing price caps;

- Analyze the Petroleum Commissioner’s responsibilities and functions under Act 77, and provide an assessment of the staffing and resources required to implement the law; and
- Submit a final report of findings and recommendations to the Legislature, including proposed implementing legislation, as appropriate.

Although normal procurement procedures were waived, the Department published a request for proposals from qualified experts to assist with the study to seek out the best expertise. The procurement process was rigorous, nationwide, and included advertisements in the *Wall Street Journal* and local papers, notices on the Internet, and solicitation to a list of major industry consulting firms. In their proposals, companies had to prepare a detailed questionnaire to present a full disclosure of work done in the oil industry, and to determine whether this work could involve a conflict of interest. Six proposals were received.

Through this competitive process, the firm of Stillwater Associates was selected. Stillwater is a California firm with extensive industry experience and local expertise, which has been working on projects with the California Energy Commission. The California Energy Commission staff validated Stillwater’s credentials to our satisfaction.

We have also retained the National Conference of State Legislatures (NCSL), an objective and uniquely qualified resource to help state legislatures identify and analyze relevant policy options. The NCSL Energy Program Director, Mr. Matthew Brown, is a well-known energy advisor to legislators across the U.S. Mr. Brown works on broad national energy issues, and in-depth energy policy analysis with individual states.

We also contacted the U.S. Federal Trade Commission (FTC) early in the process to determine relevancy of its work and possible interest in data sharing and other cooperation with Hawaii on the Act 77 project. As you know, the FTC is the federal “watchdog” agency that addresses competition in our country’s marketplace. Dr. Jerry Ellig, Deputy Director, Office of Policy Planning at FTC’s headquarters in Washington, D.C., expressed interest and FTC’s willingness to help Hawaii.

Dr. Ellig and his colleagues Mr. Christopher Taylor, and Mr. Mark Williams, both Staff Economists, and Mr. Thomas Dahdouh, Staff Attorney, FTC Regional Office (San Francisco) have been extremely cooperative and supportive. At their own initiative, the FTC examined Hawaii’s price cap law and other laws relevant to Hawaii’s gasoline markets from their expert nation-wide perspective. The information briefing today will update all of you on their findings to date.

Unless you have further questions, without further ado, I would like to introduce our first speaker, Dr. Jerry Ellig, on the line from FTC headquarters in Washington, D.C.

Thank you.



**Jerry Ellig, Ph.D.**  
**Deputy Director**  
**Office of Policy Planning**  
**Washington D.C.**

**Tom Dahdouh**  
Staff Attorney  
Regional Office (San Francisco)

**Mark Williams**  
Staff Economist

Testimony provided via speakerphone connection  
from Washington, D.C.

Competition and the Effects of Price Controls in Hawaii's Gasoline Market

Testimony of Jerry Ellig

Deputy Director, Office of Policy Planning

Federal Trade Commission

Before the

State of Hawaii

Joint Hearing

House Committee on Energy and Environmental Protection

Senate Committee on Energy and Environment

House Committee on Consumer Protection and Commerce

Senate Committee on Commerce, Consumer Protection, and Housing

House Committee on Transportation

Senate Committee on Transportation, Military Affairs, and Government Operations

January 28, 2003

Thank you for the opportunity to share the Federal Trade Commission staff's views on the likely effects of price controls and other policies in Hawaii's gasoline market.<sup>1</sup>

The Federal Trade Commission is charged by statute with preventing unfair methods of competition and unfair or deceptive acts or practices in or affecting commerce.<sup>2</sup> Commission staff have had considerable experience assessing the competitive impact of regulations and business practices in the petroleum industry, including the petroleum industry in Hawaii.<sup>3</sup> On numerous occasions, the Commission staff have offered comments on proposed state laws covering a variety of areas, including laws that would regulate gasoline prices, ban sales of motor fuels below cost, or limit competition between refiner-owned and independent gas stations.<sup>4</sup>

In May 2002, Hawaii enacted Act 77, imposing wholesale and retail price controls on regular unleaded gasoline beginning on July 1, 2004. The legislation also directed Hawaii's Department of Business, Economic Development and Tourism (DBEDT) to assess the likely impact of price controls and other alternative policies to reduce gasoline prices in Hawaii. We believe that the Legislature showed great foresight when it included this provision.

During the past several months, the staff of the FTC's Office of Policy Planning, Bureau of Economics, and the Western Region (San Francisco) have engaged in extensive conversations with staff of the Hawaii Attorney General's Office and DBEDT. We have reviewed documents from the State's price-fixing lawsuit against the oil companies,<sup>5</sup> materials from the FTC's own investigations of oil company mergers affecting Hawaii's gasoline market, and price data collected as part of an ongoing FTC gasoline price monitoring project. Based on the evidence we have seen, we offer the following observations that may be of use to Hawaii's policymakers as you consider alternative policies affecting competition and pricing in the gasoline market:

1. Hawaii's gasoline market has two refineries and six principal retail chains. Import prices for gasoline have a significant influence on its wholesale price. Several features of Hawaii's market tend to reduce retail supply and increase retail prices, including rent caps for stations operated by lessee-dealers and a retail "anti-encroachment" law restricting marketers' ability to open new company-operated stations near existing dealer-operated stations.
2. Price controls usually create shortages, reduce quality, and generate inconvenience for consumers when they are imposed in markets that could be competitive. If the price controls in Act 77 become effective and succeed in reducing retail gasoline prices, they likely will impose significant non-price costs on consumers.
3. The more consumer-friendly way to reduce gasoline prices in Hawaii would be through policies that reduce costs and/or promote competition. Policies that may deserve further consideration include repealing Hawaii's retail anti-encroachment law, repealing the rent cap on gas stations (which may discourage refiners and marketers from establishing new dealer-operated stations), and ensuring that the Hawaii Attorney General's office has adequate resources to review mergers that may impact competition

in Hawaii's gasoline market. If DBEDT's ongoing study and other evidence indicate that wholesale gas prices are not competitive, policymakers may want to consider initiatives to improve access to existing import terminals.

I will elaborate briefly on each of these points.

## **1. Market Structure and Costs**

Hawaii's gasoline market has two refineries, owned by ChevronTexaco and Tesoro. The State's five principal marketers – ChevronTexaco, Tesoro, Shell, ConocoPhillips, and Aloha – obtain gasoline from refineries or import terminals and distribute it to retail stations. A sixth marketer, BC Oil, operated the former Texaco properties owned by United States Restaurant Properties but is now bankrupt. Retail stations can be owned and operated by marketers,<sup>6</sup> operated by lessee-dealers under contract with the marketer that owns the station, or owned and operated by independent retailers.

Hawaii's refiners import crude oil, and gasoline marketers can also import gasoline. Since Hawaii has only two refineries, both on Oahu, the ease or difficulty of importing gasoline can play a key role in determining the price a marketer pays for gasoline. The refineries in Hawaii normally have the capability to produce approximately enough gasoline to satisfy demand in Hawaii. These two refineries appear to be the lowest-cost source of supply.<sup>7</sup> Various firms occasionally have imported gasoline in the past.<sup>8</sup> Even if gasoline imports are rare, however, we would expect the cost of imports to influence the price that marketers pay for gasoline in Hawaii. A marketer with the ability to import gasoline likely will have a better chance of negotiating a favorable supply agreement with one of the local refineries, since the refinery likely would have to bear the cost of exporting gasoline if a competitor increased gasoline imports significantly.<sup>9</sup>

Act 77 was enacted shortly after settlement of the State's antitrust price-fixing suit against gasoline marketers. Antitrust laws prohibit competitors from agreeing on prices or reaching other agreements that would cause a reduction in competition. However, antitrust law does not prohibit a company from speculating about how its competitors will react to its prices and taking those expectations into account when making its own, independent pricing decisions. Parallel independent behavior, without any direct or circumstantial evidence of explicit agreement on prices or practices that may facilitate collusion, does not violate the antitrust laws.<sup>10</sup>

Several significant non-antitrust aspects of Hawaii's gasoline market tend to increase retailers' costs and discourage entry.<sup>11</sup> First, due to Hawaii's unusual land ownership regime, it is difficult to obtain fee-simple ownership to land, which may reduce the incentive to invest in station facilities sited on the land.

Second, Hawaii also has sought to enact rent cap legislation limiting the rent wholesalers could charge retail dealers who lease their stations from the wholesalers.<sup>12</sup> Wholesalers could respond to rent controls in two different ways, both of which likely would reduce the number and quality of dealer-operated gasoline stations. If rent controls have the effect of reducing the total

revenues that a wholesaler receives from dealers, then the wholesaler is likely to have fewer dealer-operated stations than it would in the absence of the rent control and to spend less money maintaining the stations. Alternatively, the wholesaler might try to make up for the lost lease revenues by increasing the price it charges the dealer for gasoline (assuming the wholesale price cap on gasoline is not binding). In that case, the wholesaler effectively bears more risk, because more of its revenues would come from the sale of a commodity whose price fluctuates, rather than from rents. This increased risk increases the wholesaler's cost of selling gasoline through stations operated by lessee-dealers. The wholesaler likely would respond to this cost increase by using fewer dealer-operated stations or investing less money in maintaining the stations. In short, the rent controls likely would reduce the number and quality of gasoline stations, increase gasoline prices, and cause inconvenience for consumers, who would have to travel farther to find gas stations.

Third, and perhaps most important, Hawaii's law prohibiting "encroachment" (and its predecessor "divorcement" law<sup>13</sup>) constrain the ability of both incumbents and new entrants to establish new stations. In 1991, Hawaii passed a divorcement law that imposed a temporary moratorium on the building of any new company-operated stations, which was extended in 1993 for two more years.<sup>14</sup> In 1995, Hawaii continued the moratorium but revised it slightly.<sup>15</sup> In 1997, Hawaii replaced divorcement with an anti-encroachment law barring oil companies as well as jobbers from opening company-operated stations within a radius of one-eighth of a mile around every dealer-operated station in an urban area and one-quarter of a mile in other areas.<sup>16</sup>

Published economic research demonstrates that anti-encroachment and divorcement laws tend to increase retail gasoline prices. A National Bureau of Economic Research study found that company-operated stations can be the most efficient form of management for high-volume, low-service gasoline stations.<sup>17</sup> Laws that limit marketers' ability to establish new company-operated stations thus force them to adopt higher-cost organizational forms, and these increased costs likely are passed through to consumers in the form of higher gasoline prices. The most comprehensive of the published economic studies, conducted by a senior FTC economist, found that state divorcement and anti-encroachment laws tend to increase retail prices by an average of 2.6 cents per gallon.<sup>18</sup> Another study found Maryland's divorcement law, the first in the nation, raised self-service gasoline prices by 1.4 to 1.7 cents and full-service prices by 5 to 7 cents per gallon at stations that were formerly company-operated.<sup>19</sup> We are aware of no study specifically estimating the effect of Hawaii's divorcement and anti-encroachment laws, but we know of no reason that these laws would not have effects in Hawaii similar to their effects in other states. Indeed, the FTC warned in 1985 that the divorcement law already under discussion in Hawaii "would unquestionably increase the costs of gasoline distribution, eliminate legitimate price competition, and raise prices for motor fuel to consumers."<sup>20</sup>

Legal restrictions on a marketer's ability to establish company-operated stations also may discourage new entry. There is evidence from the record of *Anzai v. Chevron*, Hawaii's now-settled lawsuit against many of the gasoline marketers, showing that Hawaii's anti-encroachment law served to stifle the efforts of BHP, former owner of the Tesoro refinery, to embark on what it hoped would be a low-priced volume retail business.<sup>21</sup> This constraint may especially discourage retail entry by jobbers (who purchase unbranded gasoline from refiners) or smaller oil

companies, which tend to rely more heavily on company-operated stations instead of franchised dealers.<sup>22</sup>

## 2. Likely Effects of Price Controls

Most economists and antitrust experts doubt that price controls are a viable mechanism to increase consumer welfare in markets where competition is possible, and we see no reason that competition is not possible in Hawaii's gasoline market. Historical experience demonstrates that price controls tend to create shortages, reduce quality, and generate other inefficiencies.<sup>23</sup>

The U.S. experience with gasoline price controls in the 1970s confirms the predictions of economic reasoning. In 1971, gasoline prices were regulated as part of the Nixon Administration's two-year adoption of economy-wide wage and price controls. In 1973, the federal government prohibited refiners and marketers from charging prices that exceeded their average prices on May 15, 1973, plus adjustments for changes in costs. Though not identical to the price controls in Act 77, the federal controls were similar in two key ways: (1) they applied both to wholesale and to retail prices, and (2) prices were adjusted based on costs.<sup>24</sup> A report by the Federal Trade Commission's Bureau of Economics concluded that the federal price controls led to the adoption of higher-cost production methods and sporadic shortages manifested in gasoline lines.<sup>25</sup>

Customers queued up at gasoline stations are perhaps the most visible example of the inefficiencies resulting from the shortages created by gasoline price controls, but myriad other examples actually occurred during this period: limited station hours, Sunday station closures, "odd-even" purchasing restrictions based on license plate numbers, and restrictions on the number of gallons the customer could purchase in a single trip to the gasoline station. Also noteworthy are the secondary effects of such inconveniences, which included efforts to hoard gasoline and, in some instances, an increased hazard of car fires because people began storing additional gasoline in containers in their trunks.<sup>26</sup> Some research even shows that the inconvenience and other inefficiencies associated with gasoline station lines cost consumers more than they saved as a result of regulated gas prices.<sup>27</sup>

The price controls in Act 77 likely would create shortages. Act 77 ties maximum retail prices in Hawaii to wholesale prices on the West Coast. Tying regulated prices in Hawaii to West Coast prices might not always create shortages. For example, when other sources of imported gasoline are cheaper than the West Coast, the price cap is less binding. The price controls could, however, create shortages when low West Coast prices coincide with a refinery outage in Hawaii. In that case, the price cap would discourage imports precisely when they are most needed.

Even in the absence of refinery problems in Hawaii, the specific formula in Act 77 has the potential to create shortages. For example, the transportation margin needs to reflect not just the out-of-pocket cost of transporting gasoline, but also the time value of money while the product is in transport, the risk that prices might change while the product is in transport, and the likelihood that prices will fall when an entire tanker-load of product enters the market. The assumed transportation margin of four cents per gallon may be below the efficient level. FTC



staff have seen no evidence that transportation costs are this low, and evidence from Hawaii's lawsuit against certain of the incumbent gasoline marketers suggests that transportation costs may be substantially higher.<sup>28</sup>

Firms may also reduce customer convenience or quality in response to the price controls. For example, the price caps apply only to self-service regular gasoline. A retail station operator could potentially evade the price cap by offering only mid-grade, premium, or full-service. The U.S. experience with gasoline price controls reveals other ways that firms increased customer convenience or decreased quality in response to price controls. Some stations demanded "tips," while others gave customers "free" gasoline if they bought items such as rabbit's-foot keychains, will forms, or bars of soap at inflated prices. Regular customers received preferential access to gasoline. Refiners sometimes reduced octane ratings.<sup>29</sup>

In short, FTC staff believe that the costs of price controls to consumers would almost certainly outweigh any consumer benefits.

### **3. Alternative Policies to Reduce Costs and Prices**

Policymakers concerned about gasoline prices in Hawaii might find it productive to assess the likely impact of several alternative policies that have the potential to reduce gasoline prices by reducing costs and/or enhancing competition. Possible options include:

- Repeal Hawaii's anti-encroachment law, so that incumbent refiners and jobbers could build additional company-operated stations in advantageous locations and new entrants would have the option of operating their own stations instead of using franchised dealers.
- Eliminate Hawaii's legislation mandating rent caps for lessee-operated gasoline stations.
- Under merger law, antitrust officials can challenge mergers or acquisitions likely to foster tacit or explicit collusion.<sup>30</sup> Hawaii's Attorney General should have resources sufficient to assess whether future mergers or acquisitions are likely to substantially lessen competition.<sup>31</sup>

The relationship between terminal access, import prices, and retail prices is another topic that may merit further consideration. Record evidence from Hawaii's lawsuit against the gasoline marketers, as well as economic logic, confirm that the greatest constraint on the pricing of the two local refiners is a marketer's credible threat to purchase gasoline from outside Hawaii.<sup>32</sup> If DBEDT's ongoing study and other evidence show that wholesale prices are not competitive, then policymakers may want to consider options that would improve access to existing terminals for new entrants. Hawaii has no public or private terminal that guarantees third parties nondiscriminatory access to its docks, tanks and pipelines; the State could explore innovative ideas to ensure third party access, on a nondiscriminatory basis.

#### **4. Concluding Comments**

FTC staff recognize that gasoline prices have been a highly contentious issue in Hawaii, and that legislators often face strong pressure from citizens to take action against prices that are perceived as “too high.” We urge you to consider, however, that a decision to impose price controls is also, in most cases, a decision to supplant competitive forces with direct administrative intervention. A significant body of research and experience suggests that price controls have a poor record of improving consumer welfare in markets where competition is possible, and may in fact cause more harm than good in the long term.

For this reason, we believe the Hawaii Legislature acted with great foresight when it included in Act 77 the provisions delaying the implementation of price controls, so that DBEDT could study their potential impact and assess alternative policies to reduce gasoline prices in Hawaii. Substantial evidence suggests that the alternatives to price controls would best promote consumer welfare, and we urge legislators to consider this evidence when evaluating policies intended to affect gasoline prices.

## Endnotes

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<sup>1</sup> This testimony represents the views of the staffs of the Office of Policy Planning, the Bureau of Economics, the Bureau of Competition, and Western Region (San Francisco) Office of the Federal Trade Commission and does not necessarily represent the views of the Commission or any individual Commissioner. The Commission has, however, voted to authorize staff to submit this testimony. My oral responses to your questions represent my own views.

<sup>2</sup> Federal Trade Commission Act, 15 U.S.C. § 45.

<sup>3</sup> *Shell Oil Co., et al.*, 125 F.T.C. 769 (1998) (consent order requiring Shell and Texaco to divest certain assets on the island of Oahu as a condition of entering into a joint venture to combine certain gasoline marketing assets); *Pacific Resources, Inc.*, 111 F.T.C. 322 (1988) (consent order issued following U.S. district court's issuance of preliminary injunction to block Pacific Resources' acquisition from Shell Oil Company of certain petroleum terminaling and distribution assets and operations in the State of Hawaii).

In recent years, the Commission has investigated, among others, the mergers of Chevron and Texaco, Exxon and Mobil, and BP and Amoco. In 2001, the Commission investigated the proposed merger of petroleum refiners Valero Energy and Ultramar Diamond Shamrock. *See Valero Energy Corp.*, C-4031 (Feb. 19, 2002) (consent order); *Chevron Corp.*, C-4023 (Jan. 2, 2002) (consent order); *Exxon Corp.*, C-3907 (Jan. 30, 2001) (consent order); *British Petroleum Company p.l.c.*, 127 F.T.C. 515 (1999) (consent order). Moreover, the *Shell Oil Co.* consent order referenced in the preceding paragraph stemmed from the planned combination of the nationwide refining and marketing businesses of Shell and Texaco.

The Commission also has conducted nonmerger investigations and workshops involving gasoline markets, and submits public comments in regulatory proceedings. In March 2001, the Commission, using the competition analysis principles in the Merger Guidelines, completed an investigation of a spike in reformulated gasoline (RFG) prices in several Midwest states in the spring and summer of 2000. *Midwest Gasoline Price Investigation, Final Report of the Federal Trade Commission* (Mar. 29, 2001). Also in 2001, the Commission concluded its investigation of gasoline price increases in West Coast markets. *FTC Closes Western States Gasoline Investigation*, FTC Press Release (May 7, 2001). In addition, in August 2001, the Commission held an initial public conference to examine factors that affect prices of refined petroleum products in the United States. *FTC to Hold Public Conference/Opportunity for Comment on U.S. Gasoline Industry*, FTC Press Release (July 12, 2001). A second public conference was held in May 2002. *FTC to Hold Second Public Conference on the U.S. Oil and Gasoline Industry in May 2002*, FTC Press Release (Dec. 21, 2001). Commission staff also recently filed public comments with the Environmental Protection Agency concerning “boutique fuel” regulations. Comments of the Staff of the General Counsel, Bureaus of Competition and Economics, and the Midwest Region of the Federal Trade Commission, *Study of Unique Gasoline Fuel Blends (“Boutique Fuels”), Effects on Fuel Supply and Distribution and Potential Improvements*, EPA 420-P-01-004, Public Docket No. A-2001-20 (Jan. 30, 2002).

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4        *See, e.g.*, Letter from Joseph J. Simons, Director, FTC Bureau of Competition, and R. Ted Cruz, Director, FTC Office of Policy Planning, to Gov. George E. Pataki of New York (Aug. 8, 2002) available at <http://www.ftc.gov/be/v020019.pdf>; Letter from Joseph J. Simons, Director, FTC Bureau of Competition, and R. Ted Cruz, Director, FTC Office of Policy Planning, to Hon. Robert F. McDonnell, Commonwealth of Virginia House of Delegates (Feb. 15, 2002) available at <http://www.ftc.gov/be/V020011.htm>; Letter from Ronald B. Rowe, Director for Litigation, FTC Bureau of Competition, to Hon. David Knowles, California State Assembly (May 5, 1992); Prepared Statement of Claude C. Wild III, Director, FTC Denver Regional Office, before the State, Veterans, and Military Affairs Committee of the Colorado State Senate (Apr. 22, 1992); Letter from Claude C. Wild III, Director, FTC Denver Regional Office, to Hon. Bill Morris, Kansas State Senate (Feb. 26, 1992); Letter from Claude C. Wild III, Director, FTC Denver Regional Office, to David Buhler, Executive Director, Utah Department of Commerce (Jan. 29, 1992); Letter from Thomas B. Carter, Director, FTC Dallas Regional Office, to Hon. W.D. Moore, Jr., Arkansas State Senate (Mar. 22, 1991); Letter from Jeffrey I. Zuckerman, Director, FTC Bureau of Competition, to Hon. Jennings G. McAbee, Chairman, Ways and Means Committee, Other Taxes and Revenues Subcommittee, South Carolina House of Representatives (May 12, 1989).

5        *Anzai v. Chevron Corp.*, Civ. No. 98-00792 (SPK) (D. Haw., filed Oct. 1998).

6        Marketers face significant restrictions on opening new company-operated stations; *see* pp. 5-7 *infra*.

7        *See, e.g.*, TOS 15961 (document filed in the *Anzai* litigation; estimating refinery capacity for various years); Expert Report of Dr. Jeffrey J. Leitzinger at 57 (June 23, 2000) (document filed in the *Anzai* litigation; estimating total volume of gasoline sales for residential consumers in Hawaii).

8        *See, e.g.*, Expert Report of Leitzinger, *supra* note 7, at 37.

9        *See, e.g.*, TXCC 0017473-77 (document filed in the *Anzai* litigation) ("Perhaps [Texaco's] biggest threat to [the two local refiners] is importing product."); SHB 015051-52 (document filed in the *Anzai* litigation) (Shell looking at importing as way to negotiate lower price from local refiner); HI 1093382-83 (document filed in the *Anzai* litigation) (Chevron, one of the local refinery owners, expresses concern internally about Texaco's ability to import "product and drive the market down").

10        *Theatre Enterprises v. Paramount Film Distributing Corp.*, 346 U.S. 537, 541 (1954) ("Circumstantial evidence of consciously parallel behavior may have made heavy inroads into the traditional judicial attitude toward conspiracy; but 'conscious parallelism' has not read conspiracy out of the Sherman Act entirely.").

11        This testimony focuses on factors that affect prices by affecting costs and competition. We are also aware that gasoline taxes directly affect retail gasoline prices, and that Hawaii's state and local gasoline taxes exceed the national average. (In 2002, combined state and local gasoline

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taxes in Hawaii averaged 35.1 cents per gallon, as compared with a national average of 23.6 cents.) *See American Petroleum Institute, Nationwide and State-by-State Motor Fuel Taxes* (July 2002). FTC staff have independently verified tax rate information reported in this publication.

12 The 1997 legislation circumscribing company-operated stations also imposed commercial rent control on rents that oil companies (refiner, marketer, or wholesaler/jobber) can charge lessee-dealers for the use of company-owned stations and prevents them from converting lessee-dealer stations to company-operated stations. The rent control aspects of this law have not been put into effect, pending litigation. Last year a federal court ruled that this aspect of the law is an unconstitutional regulatory taking, on the ground that the rent cap would not necessarily decrease retail gasoline prices and likely would increase them. *Chevron v. Cayetano*, 198 F. Supp. 2d 1182 (D. Haw. 2002). Act 77, enacted the following month, combines the rent cap with wholesale and retail price controls. The district court's decision is currently on appeal before the Ninth Circuit.

13 Anti-encroachment and divorcement laws both limit competition between refiners/marketers and lessee-dealers. Laws banning encroachment limit a refiner's and/or marketer's ability to establish new company-operated stations within a certain distance of existing dealer-operated stations. Divorcement laws either prohibit refiners and/or marketers from operating their own stations or prohibit them from opening and operating new stations.

14 Act 295 (S.B. No. 1757); Act 329 (S.B. No. 124).

15 Companies could open two new company-operated stations for every new dealer-operated station, and company-operated stations that were closed could be replaced by a new company-operated station within a one-mile radius of the closed station. Act 238 (S.B. No. 487).

16 Act 257 (H.B. No. 1451).

17 Asher A. Blass and Dennis W. Carlton, "The Choice of Organizational Form in Gasoline Retailing and the Cost of Laws that Limit that Choice," 44 *J.L. & Econ.* 511 (2001).

18 Michael G. Vita, "Regulatory Restrictions on Vertical Integration and Control: The Competitive Impact of Gasoline Divorcement Policies," 18 *J. Reg. Econ.* 217 (2000).

19 Furthermore, these stations reduced their operations by nine hours per week. Other stations in the locale of the divested stations also raised prices. John M. Barron and John R. Umbeck, "The Effect of Different Contractual Arrangements: The Case of Retail Gasoline Markets," 27 *J.L. & Econ.* 313 (1984).

20 Letter from Terry Calvani, Acting Chairman, Federal Trade Commission, to the Honorable Peter K. Apo (Dec. 23, 1985). The bill was Hawaii House Bill 1376.

21 *See, e.g.*, Parry (BHP's Vice President of Marketing in Hawaii) Dep. Tr. in the *Anzai* litigation, at 19-27.

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22 For example, BHP sought to use company-operated stations in the early 1990s so that it would have more control over their image, operations, and pricing policies. *See* Dr. Sumner La Croix Dep. Tr. in the *Anzai* litigation, at 888, 897-99 and Dep. Ex. 3 at v and 63. In general, a refiner or marketer has an interest in preventing its retail stations from exploiting locational monopoly power that would enable the station operator to increase prices.

23 *See, e.g.*, N. Gregory Mankiw, *Principles of Microeconomics* 128 (2d ed. 2001) (“Economists usually oppose price ceilings and floors.”); Fiona M. Scott Morton, “The Problems of Price Controls,” *Regulation* at 53 (Spring 2001) (“Competition is a better tool than price controls for protecting consumers.”); John E. Calfee, “Why Pharmaceutical Price Controls are Bad for Patients,” *AEI on the Issues* at 1 (March 1999) (“Almost all economists hate almost all price controls.”).

24 Federal regulations allowed individual firms to raise prices by an amount equal to increases in their own production costs; Act 77 adjusts prices based on changes in estimated industry-wide average costs of product and transportation for Hawaii’s gasoline marketers and retailers.

25 Scott Harvey and Calvin T. Roush, Jr., *Petroleum Product Price Regulations: Output, Efficiency, and Competitive Effects*, Staff Report of the Bureau of Economics to the Federal Trade Commission (Feb. 1981). The regulations permitted refiners and marketers to pass through increases in their own costs of production with a one-month lag. Thus, when world oil prices increased because of events like OPEC price increases or the Iranian revolution, temporary shortages would occur because companies could not immediately increase prices to reflect the higher cost of crude oil. Gasoline lines and other forms of nonprice rationing were the result. In the absence of the price controls, gasoline prices would have reflected increases in crude oil prices relatively rapidly, and most nonprice rationing would have been avoided because consumers would have reduced consumption in response to the price increase.

26 Robert L. Bradley, Jr., *Oil, Gas & Government: The U.S. Experience* 1631-34 (1996)

27 Scott Morton, *supra* note 23, at 51.

28 *See, e.g.*, THC 55 003377-79 (document filed in the *Anzai* litigation); TXU 0013405 at 0013440 (document filed in the *Anzai* litigation).

29 Bradley, *supra* note 26, at 1634-36.

30 *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 716 (D.C. Cir. 2001) (merger law rests upon the theory that, where rivals are few, firms will be able to coordinate their behavior, either by overt collusion or by implicit understanding, in order to restrict output and achieve profits above competitive levels) (quoting, in part, *FTC v. PPG Indus.*, 798 F.2d 1500, 1503 (D.C. Cir. 1986)).

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31 The FTC and the Hawaii Attorney General's office have twice investigated proposed mergers of incumbent gasoline marketers in Hawaii. *See Pacific Resources, Inc. and Shell Oil Co., et al., supra* note 3.

32 *See supra* note 9.

# Hawaii Fuels Study Policy Analysis of Gasoline Price Caps and Alternatives for Lower Gasoline Prices in Hawaii

Interim Presentation to Legislature  
January 28, 2003

## Agenda

- Preliminary Conclusions
- Scope & Status Update
- Stakeholder Meetings
- Supply/Demand Issues
- Hawaii Fuels Infrastructure
- Refining Costs & Margins
- Market Mechanisms
- Impact of Price Caps
- Next Steps



## Preliminary Conclusions

### Hawaii fuels markets - high cost, function differently than other markets

- Refiners
  - Small scale, low complexity refineries running mostly expensive light sweet crude oil to make jet fuel and fuel oil
  - Branded gasoline retail is a small portion of total fuels but is used by refiners to compensate for low margins on other products
  - Local refineries cannot match the low costs of Pacific Rim refiners
  - The Aloha/USRP import terminal brought the wholesale market into import parity
- Gasoline Retail
  - High cost of land is a significant factor in retail cost
  - Inter-island distribution adds cost over mainland markets
  - Low average volume per station increases cost per gallon
  - Market currently sees major changes, similar to those that caused closure of high cost retail in the continental US over the past decade

## Preliminary Conclusions (Continued)

### Price Caps are unlikely to be effective

- Effect of current formula
  - Does not fully recognize differences in cost structure of retailers and wholesalers
  - Link to California will bring higher prices, volatility and seasonality
  - Will eliminate some high cost services in remote areas
  - May cause widening differences between grades
- General concerns
  - Forces at work are far more complex than caps can address
  - Caps reduce rather than promote competition
  - Earlier US and Canadian initiatives were not successful
  - Caps do not foster the cooperative environment between industry and government needed to overcome collective challenges

## Agenda

- Preliminary Conclusions
- **Scope & Status Update**
- Stakeholder Meetings
- Supply/Demand Issues
- Hawaii Fuels Infrastructure
- Refining Costs & Margins
- Market Mechanisms
- Impact of Price Caps
- Next Steps

## Scope of the Study

- Gather, review, analyze and evaluate information, including:
  - Publicly available information, studies, and reports
  - Unsealed documents from the AG's investigation of the petroleum industry
  - Oil Price Information Service or other appropriate benchmarks
  - Various price sensitivity scenarios
- Review options available to the Legislature to reduce wholesale and retail gasoline prices, including:
  - Proposals to impose maximum price caps
  - Stricter anti-trust laws
  - Lowering barriers to entry
  - Attracting other competitors to the market and increasing competition among current players

## Status – 11 weeks

- RFP issued late August, contract signed November 1, first stakeholder meeting November 18
- Conducted over 50 meetings and conference calls with stakeholders
  - Industry participants: refiners, jobbers, marketers, dealers, logistic service providers
  - Government: Senate & House, AG office, legislative staff
  - Experts: U of Hawaii, consultants hired during lawsuit
- Started quantitative analysis
  - Supply chain economics
  - Effect of Price Caps
- Prepared outline and first draft report
- Prepared Interim Presentation

## Agenda

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## Stakeholder Meetings – Government Officials

- Act 77 was reaction to settlement of the anti-trust lawsuit
- There is a general realization that, in its current form, the Act unlikely to be effective
- Market is still broken, strong sentiment that “Something Must be Done”
- Suggested alternatives include Public Terminal, Public Oil Company, Public Oversight, and Stimulating Competition
- Effects on Neighbor Islands a concern

## Key Issues from Stakeholders

	Suppliers	Jobbers	Dealers	Others*
Act 77 politically motivated	All	All	All	All
Market not broken, retail competitive	All	All	All	All
Price caps won't work	All	All	All	All
Negative impact on investments	All	All	All	All
Divorcement was mistake	All	All	Most	Most
Poor relations government/industry	All	All	All	Most
Chevron to blame	Most	All	All	All
Chevron leads gasoline market	Most	All	All	All
Price information not reliable	All	All	All	Most
Barriers to entry Neighbor Islands	Some	Most	Few	Most
Refining not very profitable	All	Some	Some	Some
Permitting issues	Some	Some	Few	Some

\* Academics, government staff, logistic service providers, traders, marketing services

# Agenda



- Preliminary Conclusions
- Scope & Status
- Stakeholder Meetings
- **Supply/Demand Issues**
  - Hawaii Refineries
  - US West Coast Sources
  - Pacific Rim Sources
- Hawaii Fuels Infrastructure
- Refining Costs & Margins
- Market Mechanisms
- Impact of Price Caps
- Next Steps



# Hawaii Refineries



## Current Capacities

Units, bbl/day	Chevron	Tesoro	Total
Atmospheric Distillation	57,000	95,000	152,000
Vacuum Distillation	31,300	43,000	74,300
Catalytic Cracking	22,000		22,000
Cat Hydrotreating	3,500	12,000	15,500
Cat Hydrocracking		18,000	18,000
C4 Isomerizer	3,200		3,200
Alkylation	5,000		5,000
Catalytic Reforming		13,000	13,000
Thermal & Visbreaking		13,000	13,000
Asphalt & Road Oil	1,500	1,000	16,000

Products, bbl/day	Chevron	Tesoro	Total
Propane	2,000	3,000	5,000
Gasoline	15,000	14,000	29,000
Diesel	7,000	22,000	29,000
Jet Fuel	11,000	29,000	40,000
Naphtha	6,000	7,000	13,000
Fuel Oil	16,000	24,000	40,000
Asphalt	>1,000	>1,000	>2,000
	58,000	100,000	

- History
  - Chevron started in 1962 with 33,000 BPD capacity
  - Tesoro started as PRI/HIRI in 1972 with state assistance at 30,000 bpd
- Unique product/crude slate
  - Primary products are fuel oil, jet
  - Light, sweet crude oil feedstock
- Significant economic factor
  - Direct employment for 850 people, many more jobs indirect
  - Significant local tax payers
  - Strategic economic and military considerations
- Currently, crude runs are
  - Chevron 48 - 50 TBD
  - Tesoro 85 - 87 TBD



# Hawaii Supply Demand Balance



Approximate Current Balance, BPD				
	Hawaii Capacity	Hawaii Demand	Local Supply	Imports (Exports)
Propane	5,000	1,500	1,500	0
Gasoline	27,000	26,000	26,000	0
Naphtha	13,000	6,000	13,000	(7,000)
Diesel	29,000	26,000	26,000	0
Jet Fuel	40,000	41,000	32,000	9,000
Fuel Oil	34,000	33,000	30,000	3,000
Asphalt	2,000	1,500	1,500	0

- Gasoline
  - Supply and demand are balanced
  - Demand is stagnant
- Fuel oil, diesel
  - Some imports come in for commercial reasons or for quality
- Jet Fuel
  - Production limited by ability of refiners to sell co-products
  - Imports serve to achieve international market parity

**Naphtha is exported to Japan**

**Jet fuel is imported from Pacific Rim refiners**

**Fuel oil is imported from Indonesia**

**Small volumes are exchanged with the mainland US**

**Demand growth is unlikely to cause a shift in Hawaii's supply pattern**



# US West Coast Supply and Demand



		Gasoline	Diesel	Jet	Resid
AK	Production	19	22	22	2
	Demand	19	22	26	2
	Balance	0	0	-4	0
WA	Production	270	137	116	71
	Demand	182	59	68	25
	Balance	+88	+78	+48	46
OR	Production	0	0	0	0
	Demand	98	44	17	5
	Balance	-98	-44	-17	-5
CA	Production	1,049	291	240	58
	Demand	996	231	282	112
	Balance	+53	+60	-42	-54
AZ	Production	0	0	0	0
	Demand	142	52	29	0
	Balance	-142	-52	-29	0
NV	Production	0	0	0	0
	Demand	55	24	25	0
	Balance	-55	-24	-25	0
Production		1,341	450	378	131
Demand		1,492	432	447	144
Balance		-150	18	-69	-13

- US West Coast is a significant net importer across the barrel
- Situation will worsen with CARB Phase III implementation in CA
- Incremental shortfall likely to be as high as 100 TBD
- Additional imports will be high value blending components from remote sources
- Demand in CA, AZ, NV continues to grow at 2 – 3% per year
- Capacity additions highly unlikely
- Jones Act adds to cost of US supplies

**US West Coast is not useful as reference for Hawaii**



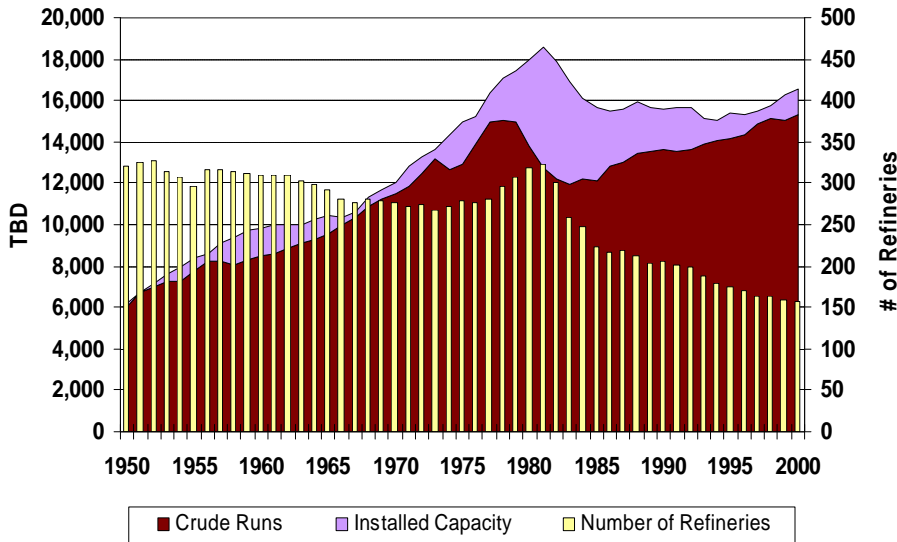


# US Overall Supply Demand Balance



Stillwater Associates

## US Refining Capacity & Utilization 1950 - 2000



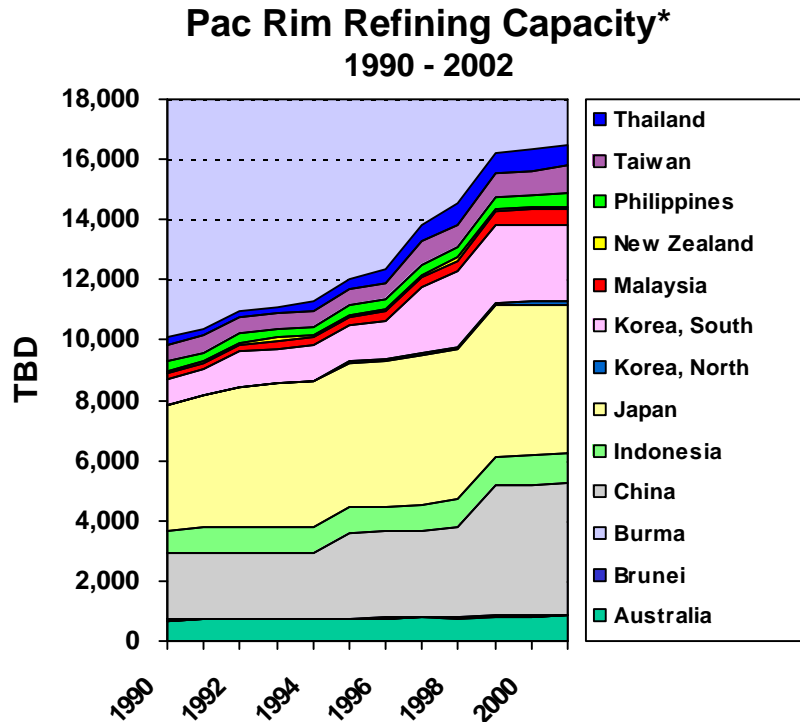
- Historically, refining is a low margin commodity industry
- The only time when refiners could afford to build overcapacity was in 1976 – 1981, when the industry was regulated
- Since 1981, rationalization has resulted in closure of small, inefficient refineries
- If located in continental US, Hawaii refineries would have been shut down or upgraded to full conversion
- Currently, the industry is once again at capacity
- Permitting restraints and community activism make new additions unlikely

**US as a whole is becoming increasingly short in refined products**

Hawaii Fuels Study - Interim Presentation



# Pacific Rim Fuel Markets



\* Source of data: Oil & Gas Journal

- Singapore, South Korea and Taiwan have aggressively added refining capacity
- The additions include new world scale refineries in the 500 – 800 TBD capacity range
- Pac Rim demand is primarily for distillates, co-produced gasoline is exported out of the region
- Singapore has emerged as a global fuels trading hub

**Pac Rim should be Hawaii's preferred framework of reference for fuels**



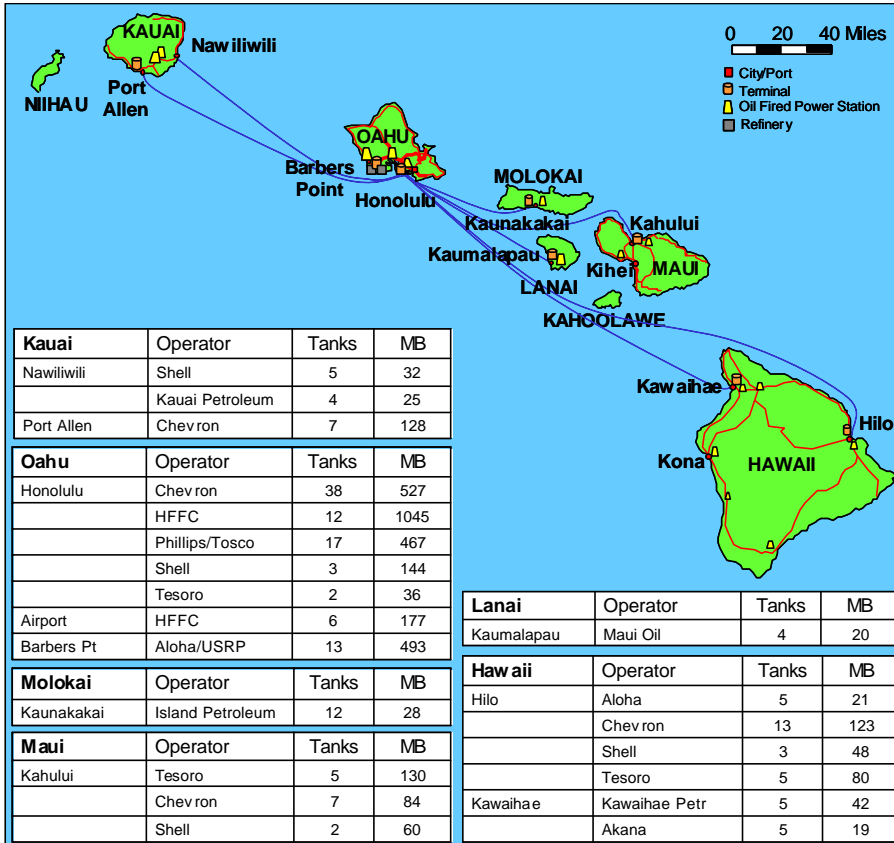
# Agenda



- Preliminary Conclusions
- Scope & Status
- Stakeholder Meetings
- Supply/Demand Issues
- **Hawaii Fuels Infrastructure**
  - Oahu
  - Neighbor Islands
- Refining Costs & Margins
- Market Mechanisms
- Impact of Price Caps
- Next Steps



# Hawaii Fuel Infrastructure\*

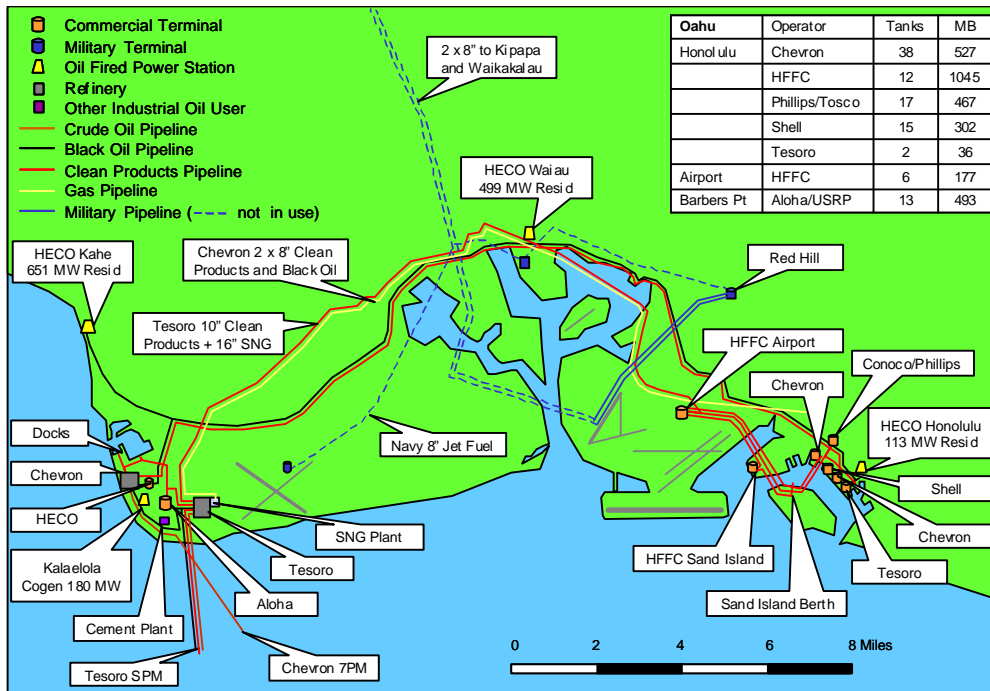


- Oahu is refining and import center
- Neighbor islands are served by barge out of Honolulu and Barbers Point
- Terminal ownership in the islands determines market participation
- Internal distribution costs\* are high
  - Oahu trucking 2.5 cpg
  - Barging 5 cpg
  - Island terminals 2 – 3 cpg
- Infrastructure cost high because of small scale

\* Based on preliminary data from public and industry sources



# Oahu Petroleum Infrastructure\*



## ➤ Crude Oil

- Offshore moorings restricted to 150,000 ton DWT, cannot receive a fully laden VLCC
- Inventories on average 7 days, with 20 days on the water

## ➤ Black Oil

- Pipelines to 3 power plants
- Imports only through refiners

## ➤ Products

- Aloha/USRP terminal offers independent import capability
- Ample pipeline capacity
- Storage in Honolulu reduced
- Some military systems are no longer in use

\* Based on preliminary data from public and industry sources



# Agenda



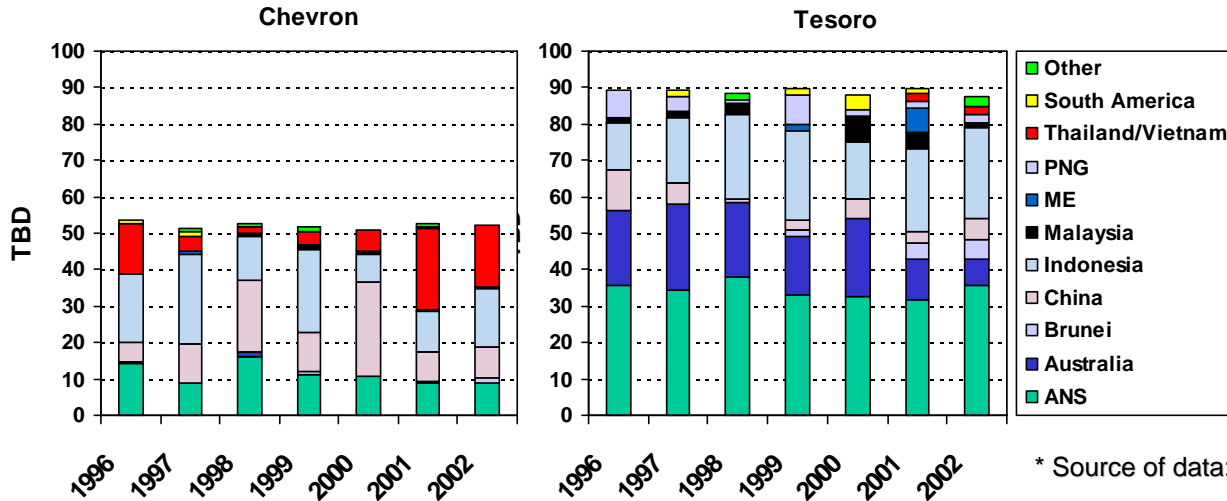
- Preliminary Conclusions
- Scope & Status
- Stakeholder Meetings
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- Hawaii Fuels Infrastructure
- **Refining Costs & Margins**
  - Crude Oil
  - Operating Cost
  - Prices & Netbacks
  - Profitability
- Market Mechanisms
- Impact of Price Caps
- Next Steps



# Hawaii Crude Oil Consumption



## Hawaii Crude Oil Receipts, 1996 - 2002\*



\* Source of data: EIA.

- Alaska North Slope (ANS) still constitutes 30% of supplies, but ANS production is declining 8% per year
- Hawaii refineries use sweet, light crudes to maintain sulfur spec and distillation range for products in absence of heavy residue upgrading capabilities

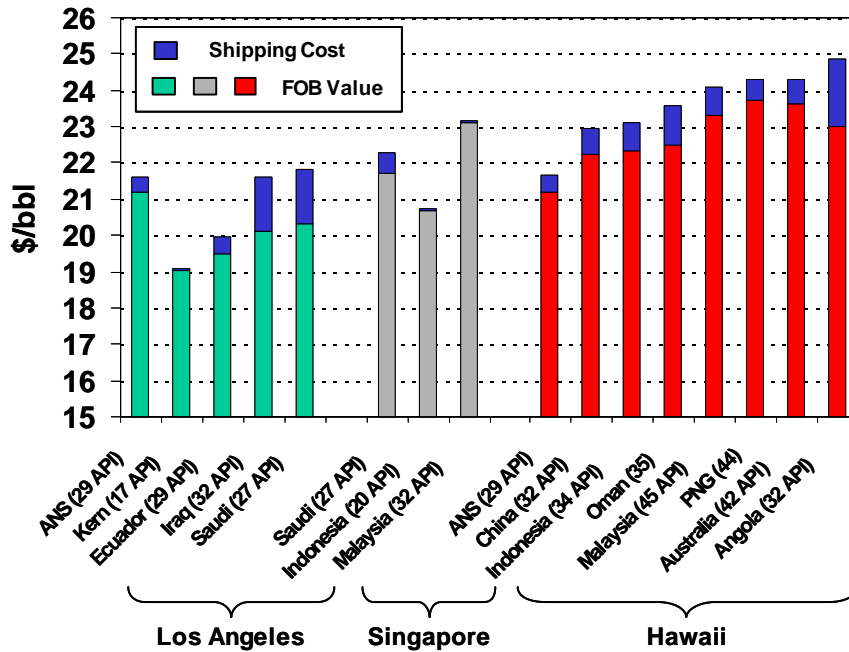


# Crude Oil Costs



Stillwater Associates

**2002 Delivered Crude Oil Cost\***  
Los Angeles, Singapore and Hawaii



\* Source of data: Petroleum Intelligence Weekly.

- Hawaii refiners pay a premium
  - \$3/bbl more than LA refiners
  - \$2/bbl more than Pac Rim refiners
  - Available data track US landed cost of API 30 – 35 Crude Oil + \$1.50/bbl
- Yield differences aggravate crude cost disadvantage for Hawaii refiners
- Some of the crude oil premium is recovered in lower refining cost
- Hawaii refiners plan to buy even better quality crudes to meet 2005 low sulfur requirements
- Light, sweet crudes become increasingly rare and premiums are expected to increase

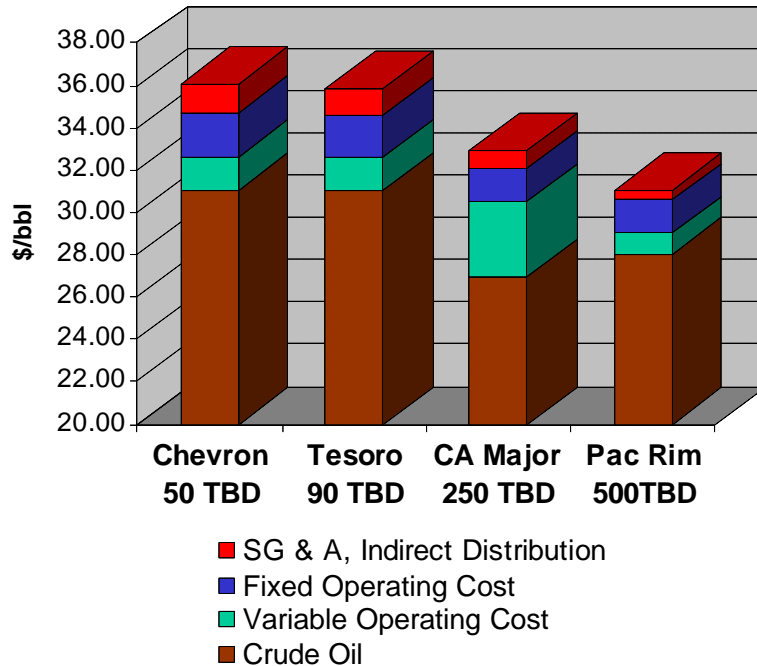




# Total Operating Costs



**Estimated Refining Cost\***  
\$28/bbl Nominal Crude Price



\*Stillwater estimates based on publicly available information

## ➤ Overheads

- Includes field sales cost, corporate charges, and marketing cost such as credit card, and lease or capital cost not charged to dealers
- Includes cost of main distribution infrastructure, i.e., terminals & pipelines

## ➤ Fixed Costs

- Labor costs assume average payroll + burden of \$80k in Hawaii and CA, \$40k in Pac Rim
- Maintenance includes annualized cost of periodic turnarounds
- Includes depreciation, fees & taxes
- Excludes capital recovery and debt service

## ➤ Variable Costs

- Hawaii per bbl fuel cost are higher because Hawaii refiners use fuel oil rather than natural gas
- High CA cost caused by purchases of MTBE, ethanol, other blendstocks, which is partially offset by lower crude oil usage

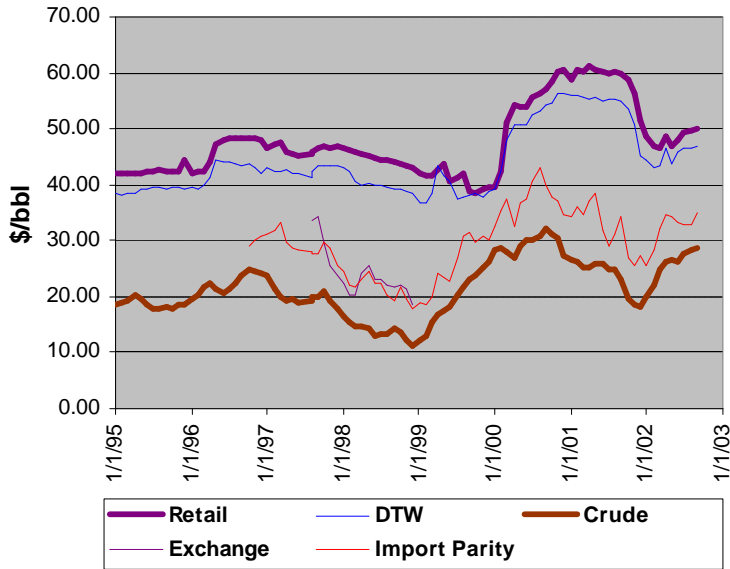


# Hawaii Gasoline Price Structure



Stillwater Associates

**Regular Gasoline Prices vs. Crude\***  
Hawaii ex-Tax Retail and DTW



cpg	1997	1998	1999	2000	2001
Midgrade	+6.1	+6.3	+7.8	+5.4	+6.1
Premium	+16.2	+16.0	+15.9	+12.4	+19.4

\* Source of data: EIA Monthly Petroleum Marketing Reports

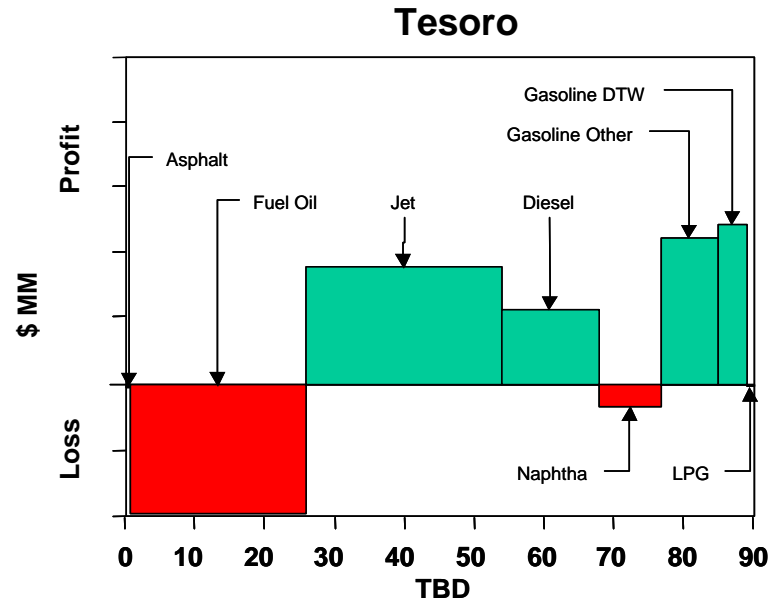
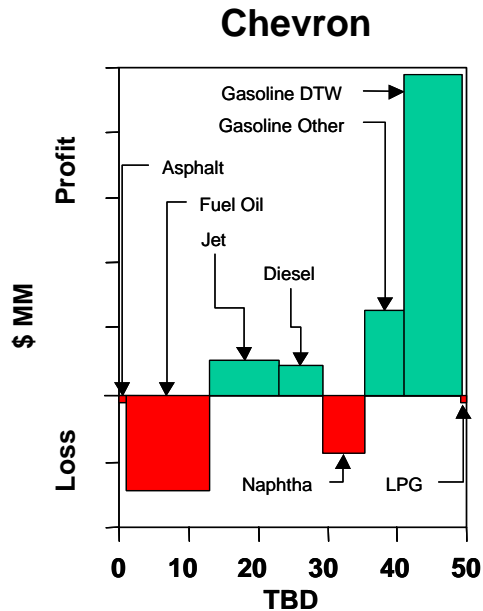
- Average delta of DTW gasoline over crude over past 5 years is \$23/bbl (55 cpg), vs. \$8/bbl (19 cpg) for US
- Midgrade and Premium represent 10% and 25% of sales (US: 7%, 13%)
- Refiners sell a large portion of their gasoline to co-marketers at significantly lower prices
  - Chevron 6000 bpd
  - Tesoro 9000 bpd
- Co-marketer pricing believed to be near import parity



# Hawaii Refiners – Estimated Profitability by Product\*



Stillwater Associates



- Gasoline, diesel and jet fuel sales have to compensate for losses in other products
- Jet fuel is global market where buyers control logistics and have purchasing power
- Diesel in Hawaii is primarily used for industrial, agricultural and power generation
- Gasoline is where refiners realize margins to recover capital investment

\* Based on EIA Price and Volume Data

Hawaii Fuels Study - Interim Presentation



# Preliminary Findings on Margins & Prices



Stillwater Associates

- Hawaii refineries are high cost producers – high crude cost, small scale, high general costs
- Main products, jet fuel and fuel oil, are sold at international market parity
  - Fuel oil is sold at a loss by refineries worldwide (priced below crude) because supply exceeds demand and excess has to be processed at a significant cost in specialized units
  - Jet Fuel is commodity fuel with prices set by large, efficient export refineries
- Given their market power, Hawaii refiners are able to charge gasoline consumers sufficiently high prices to compensate for fuel oil, naphtha losses
- High gasoline prices would attract other participants if it weren't for barriers and small scale of market
- If gasoline prices come down to import parity, local refineries in current form would lose money



## Agenda

- Preliminary Conclusions
- Scope & Status
- Stakeholder Meetings
- Supply/Demand Issues
- Hawaii Fuels Infrastructure
- Costs & Margins
- Market Mechanisms
  - Island Effect
  - Retail Cost Structure
  - Jet & Fuel Oil
- Impact of Price Caps
- Next Steps

## General Aspects of Isolated Markets

- High prices can only exist in isolation of world markets if barriers prevent normal trading arbitrage
  - Duties and tariff barriers: Japan, Korea in the past, Panama recently
  - Physical barriers: lack of import infrastructure
  - Quality barriers: California's unique gasoline specifications
  - Commercial barriers: CA Unocal patent, refiner control of terminals
- Opening up island markets lowers prices for consumers, but often causes severe cutbacks in local industry
  - Panama: closure of local 50 TBD Texaco (now Chevron) refinery
  - Australia, Japan, Korea: local refiners had to adjust

## Hawaii Barriers to Entry

### Gasoline

- Overall local supply and demand are in balance, making terminals expensive to operate for small volumes
- Import infrastructure exist, but is used as leverage by market participants to exercise market power rather than flood the market with cheap imports
- Foreign suppliers have no access to retail market
- Inter-Island distribution has many physical barriers and small scale, limiting access to local markets

### Fuel Oil

- Utilities are knowledgeable buyers with concentrated purchasing power
- Import infrastructure exist, and is used as leverage by purchasers to obtain import parity pricing at small premiums
- Foreign suppliers bid on supply tenders, and are used for leverage with local suppliers
- Imports amount to 9% of Hawaii volumes
- Pricing is close to world markets

### Jet Fuel

- Purchasers have global reach
- Import infrastructure is owned by the purchasers, and is used to bring in volumes on a regular basis
- Export suppliers bid on supply tenders, and are awarded contracts
- Small premium still exists to reflect supply reliability preference for local refiners

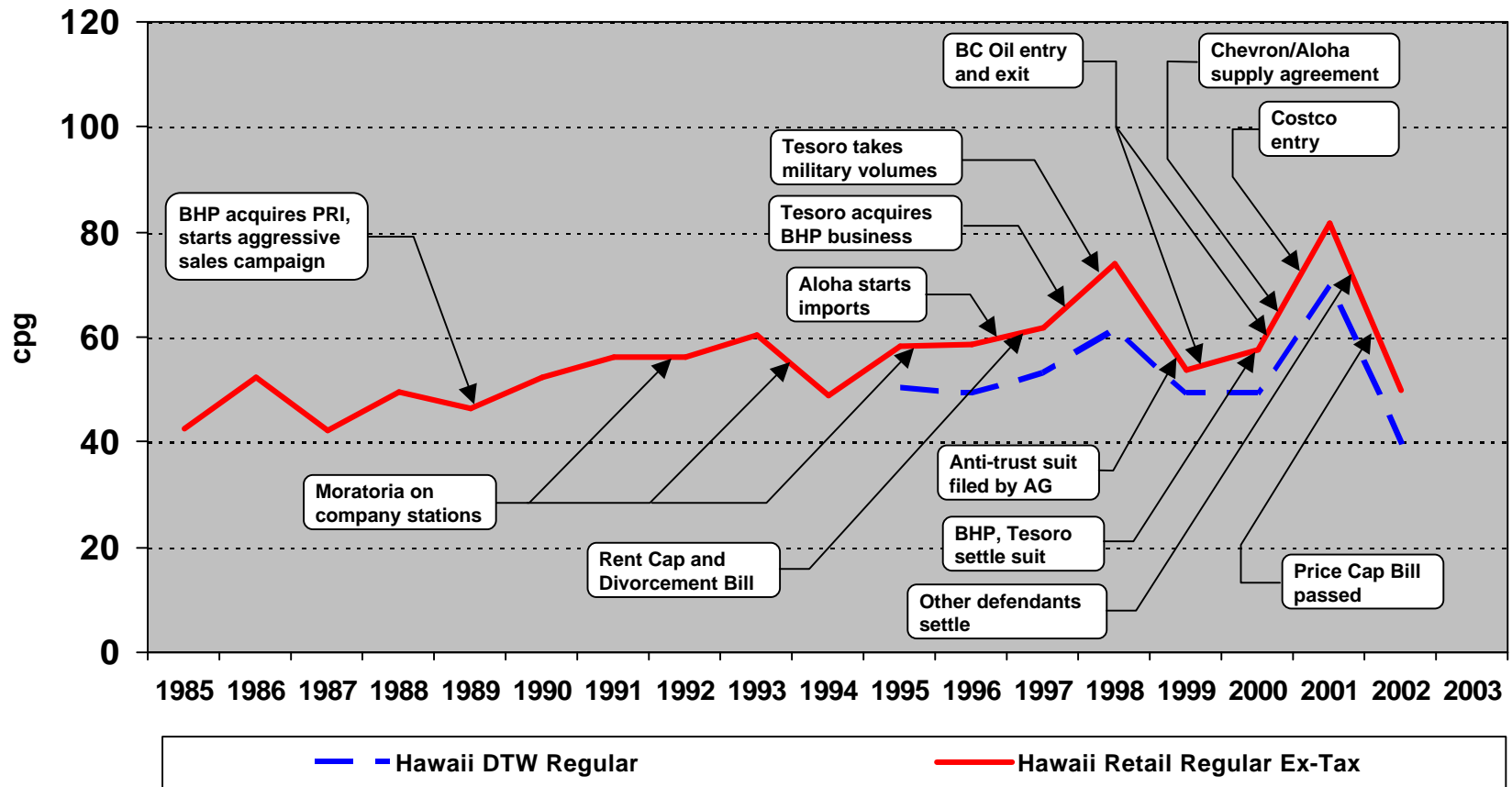
## Role of Import Facilities

- Marine Terminals in independent hands provide wholesale-level competition
  - Costco in Hawaii made possible by Aloha/USRP terminal (Aloha supplies Costco, Aloha was able to leverage its import capability into lower cost local supply agreements)
  - Import capability enables Non-Island refiners to negotiate Singapore-related prices (prior agreements were West Coast parity exchanges)
  - Import capability reflected in military and commercial prices
- Other markets share the same experience
  - Australia until 1990 (Japan, Korea, UK earlier)
  - Los Angeles Basin still restricted today
- Role of Hawaii import facility is limited
  - Captive retail still prevents foreign supplier from flooding the market

# Hawaii Gasoline Timeline – Regular minus Crude



Stillwater Associates



# Lessons from Timeline



- Hawaii's retail gasoline market not very sensitive to external factors
- High prices attract new participants (BHP, Tesoro, BC Oil), but
  - If new entrant has to buy its way in, high capital cost will prevent a low cost supplier strategy
  - Small size of the total market means that a grassroots new entrant has dismal economies of scale
  - Only novel approaches can break deadlock, for example Costco: nationwide purchasing leverage, low overheads, shared resources
- Underlying trend 1985 – 2002
  - Gasoline price differential over crude increased at 1.5% per year in nominal dollars
  - In constant 1985 dollars, gasoline margins decreased by 1.4% per year





## Hawaii Wholesale Gasoline Market



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- Hawaii lacks a bulk spot market
- There is no liquidity in the wholesale gasoline market
  - At 25 TBD, the total size of the market is equal to a single pipeline “piece”, the standard unit of trade in other markets
  - There is only a limited number of participants
  - There is little diversity between participants (no brokers, traders, foreign producers, small independents)
- Wholesale Price Non-Transparent
  - No posted pricing
  - No screen trading
- No Unbranded Spot Market
- No Forward Market
- Weak Basis Relationship to Crude Oil

Hawaii Fuels Study - Interim Presentation



Hawaii Fuels Study DBEDT

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## Hawaii Retail Gasoline Market



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- Hawaii's average sales per station are less than 100,000 gln/month, versus 150,000 in California
- Land values can be prohibitive, \$5 MM for a half acre, \$40 k monthly lease
- Traditional model in Hawaii is based on service bays, but convenience stores offer higher revenue per square foot
- Lessee dealers are being superseded by large scale owner operators of multiple stations on mainland
- High Volume Retailers such as Costco make for even more efficient sales channels
- Mom and Pop operators likely to survive only in remote locations

Hawaii Fuels Study - Interim Presentation



Hawaii Fuels Study DBEDT

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- Impact of Price Caps
  - Caps Elsewhere
  - Effect West Coast Reference
- Next Steps

## Caps Elsewhere

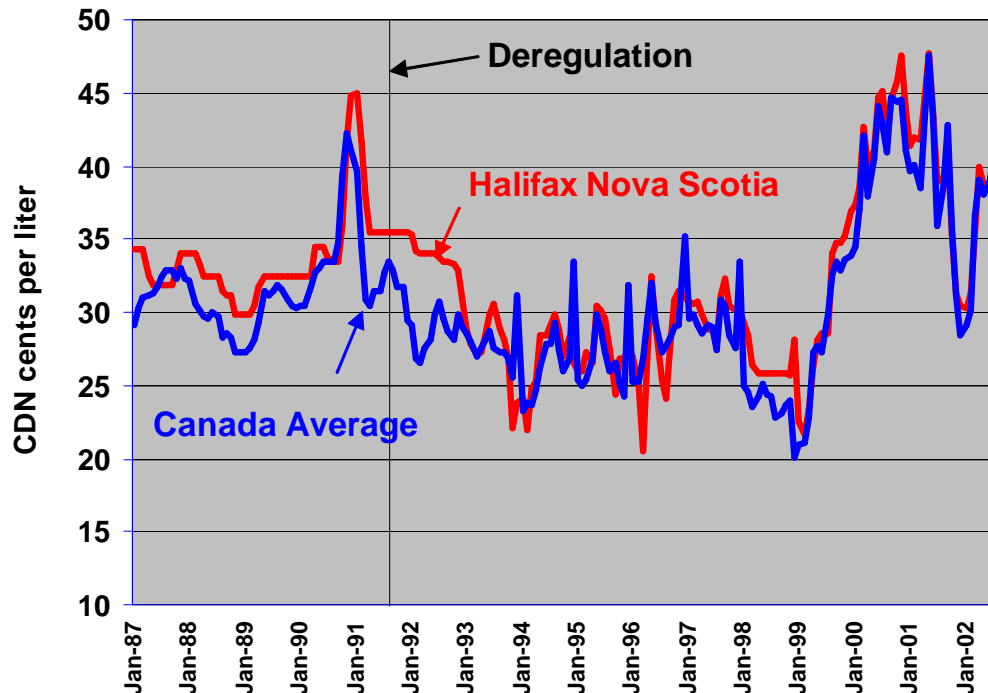
- US Nationwide Petroleum Price Controls, 1971-1981
  - Widely recognized as a failure
  - Caused significant market distortions, shortages, gas lines
- Canadian Experience
  - Nova Scotia – until July 1991
  - Prince Edward Island – 1988 to present
  - Newfoundland and Labrador – since 2001
  - Quebec (minimum price)
- Other countries had varying levels of price controls in the 1970s. Only Canada remains.

# Nova Scotia Experience



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**Halifax/Nova Scotia Gasoline Prices\***  
1987 - 2002



- Oldest of the Canadian price regulation initiatives
- Deregulated in July 1991
- Was above Canada average during regulation period
- Stayed above Canada average for one year after deregulation
- In line with Canada average after market forces had time to react

\* Source of data: Erwin Reports

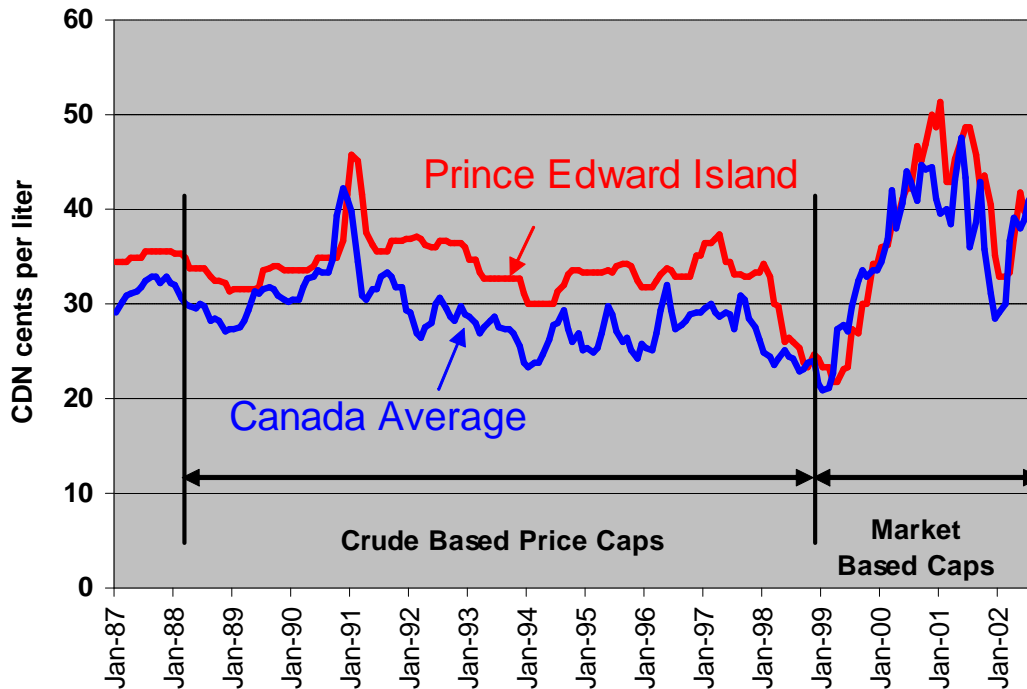


# Prince Edward Island Caps



Stillwater Associates

**Prince Edward Island Gasoline Prices\***  
1987 - 2002



\* Source of data: Erwin Reports

- Program initiated in 1988, still in effect today
- Max and min price set each month for all 6 local brands
- Initially crude based, now market based
- Built up from
  - Change in gasoline in NY harbor
  - Exchange rates
  - Mark-ups for transportation, margins, etc.
- Introduction of market based caps has lowered prices relative to Canada average

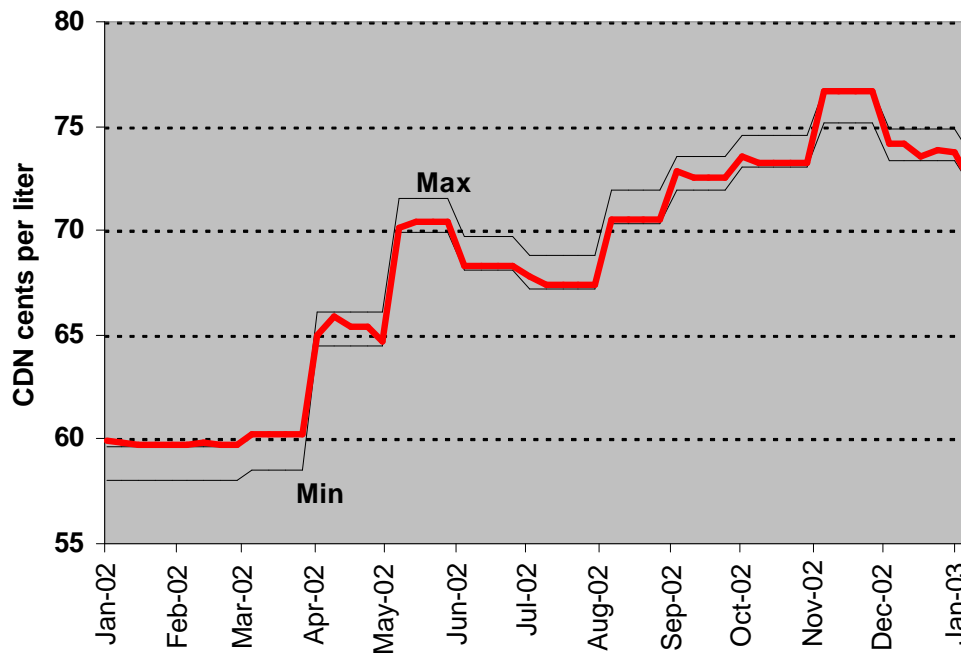


# Prince Edward Island Caps



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## Prince Edward Island Gasoline Prices\*



- Actual pump prices bounce between narrow band of min and max range
- Max and Min prices are frequently binding
- In the absence of the minimum price, actual pump prices might have been lower for more than 50% of the time (since at “Min” so often)
- Complex and resource intensive system to administer and control

\* Source of data: Erwin Reports

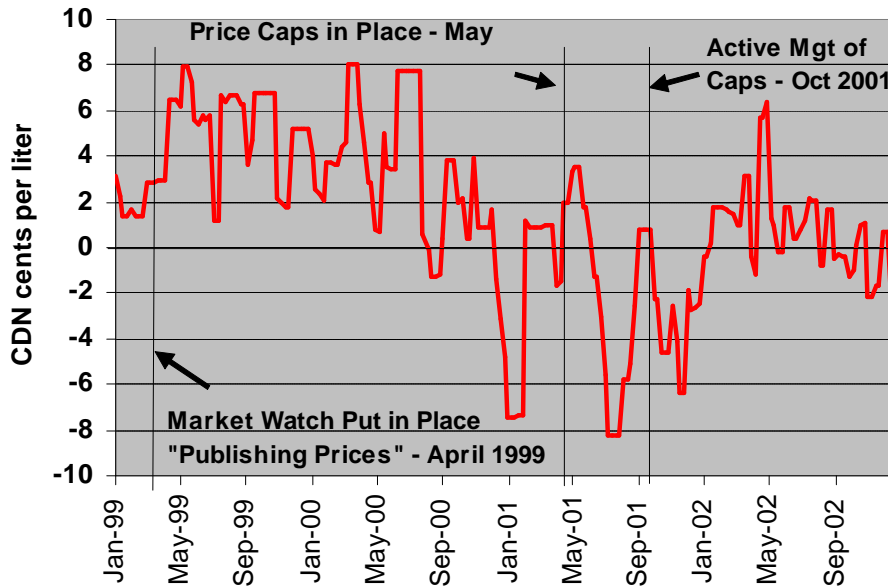


# Newfoundland and Labrador Caps



Stillwater Associates

## Newfoundland vs. Neighbor Provinces Gasoline Prices \*



- Premium Newfoundland pays over neighboring provinces has decreased slightly since price controls initiated
- Prices have decreased relative to Prince Edward Island
- No significant change in volatility

\* Source of data: Erwin Reports

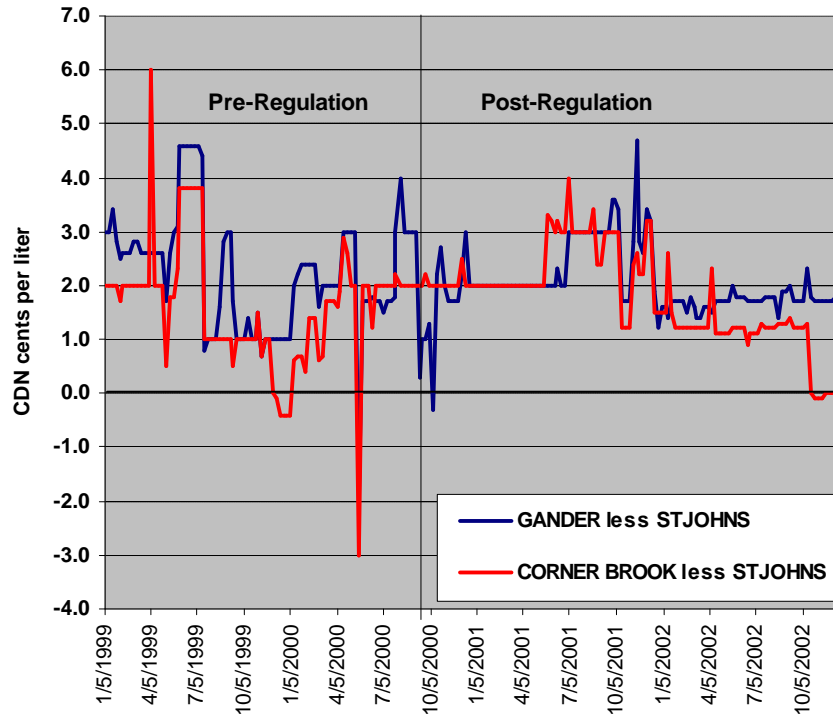


# Newfoundland and Labrador Caps



Stillwater Associates

## Newfoundland & Labrador Location Differentials\*



\* Source of data: Erwin Reports

- Location differentials have only come down slightly since introduction of price caps.
- Requires continual evaluation of location differentials e.g. differentials in Corner Brook reduced upon completion of marine infrastructure study

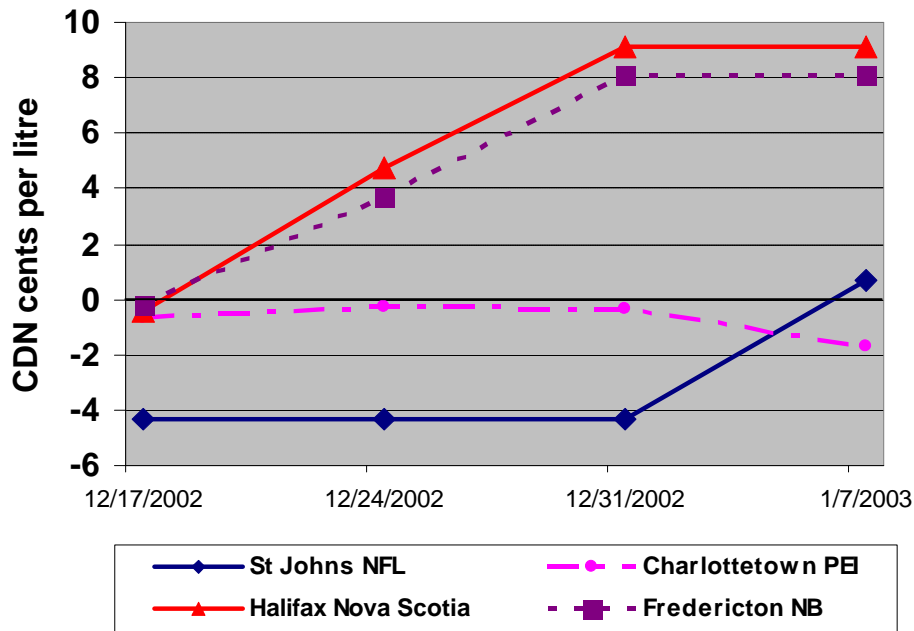


# Newfoundland and Labrador Caps



Stillwater Associates

**Cumulative Price Changes, Four Atlantic Cities\***  
December 2002 - Current



- Recently, prices in neighboring unregulated markets have moved up in response to oil price rises (also happened in early 2002)
- Regulated prices did not respond fast enough
- Shortages were reported, particularly in outlying areas
- Events resulted in calls for potential review or repeal of legislation

\* Source of data: Erwin Reports





## Experience with Caps

- Causes significant market distortions
- Prices often above unregulated prices
- Complex system to administer and control
- Increases price volatility
- Calculation of location differentials cumbersome and controversial
- Produces shortages at various times
- Lags market conditions

## Hawaii Cap Law (Act 77)

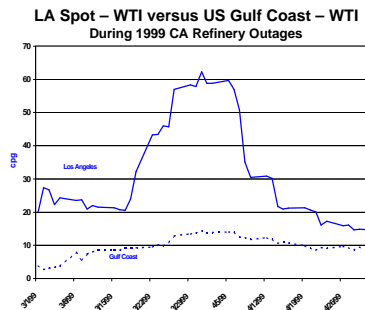
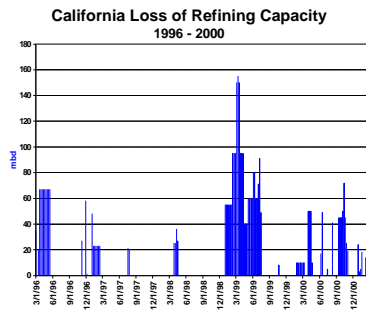
- Establishes maximum wholesale and retail prices beginning July 1, 2004
- Applies to self-serve regular only
- Initial adjustment factors set, subject to annual review
- Formula for pre-tax wholesale price
  - Oahu baseline:
    - Ave (simple average) OPIS Daily spots (5-days in prior week) for LA, SF, and PNW + 4 cpg location adjustment + 18 cpg marketing margin factor
  - Neighbor Islands (NI) baseline:
    - Oahu baseline + 4 cpg NI location adjustment + 4 cpg NI marketing margin factor
- Formula for pre-tax retail price
  - Island pre-tax wholesale baseline + 16 cpg retail marketing margin
- Pump price
  - Pre-tax retail price plus applicable taxes (Gross Excise Taxes, Federal and State Excise, Island fuel taxes.)
    - G.E.T. 4.5% (4% at the consumer, 0.5% at wholesale)
    - Federal excise 18.4 cpg
    - State excise 16 cpg
    - Fuel taxes (Oahu 16.5, Maui 13, Kauai 13, Hawaii 8.8 cpg)
    - Environmental response tax 0.119 cpg

## Hawaii Cap Law

### ➤ Potential problems

- The caps may impart more volatility into gasoline prices than currently.
- The caps only cover regular self serve gasoline.
- The caps may encourage dealers to lower their prices slowly when caps are not “binding” in order to capture some of the loss they experienced when the price caps were binding.
- The linkage to California spot prices could impart large price swings as a result of California refinery disruptions.
- The caps will impart California’s seasonal price pattern to the non-seasonal Hawaiian prices.
- Potential shortages when price caps are “binding” (when unregulated prices above Caps)

## Hawaii Cap Law

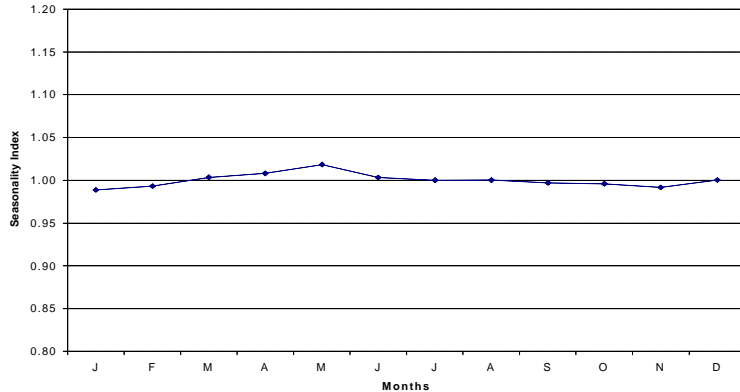


**Linkage to California spot prices could impart large price swings as a result of California refinery disruptions.**

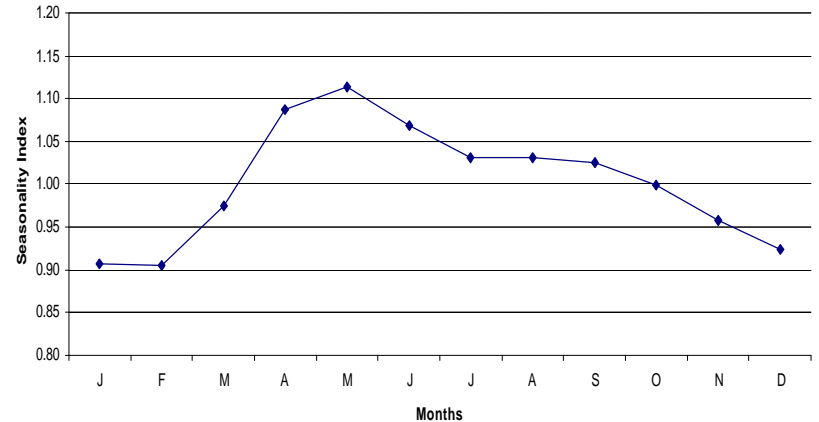
# Hawaii Cap Law



**Seasonal Adjustment Factors (Base =1.0)  
5 Year Average Monthly Prices Hawaii**



**Seasonal Adjustment Factors (Base =1.0)  
5 Year Average Monthly Prices California**



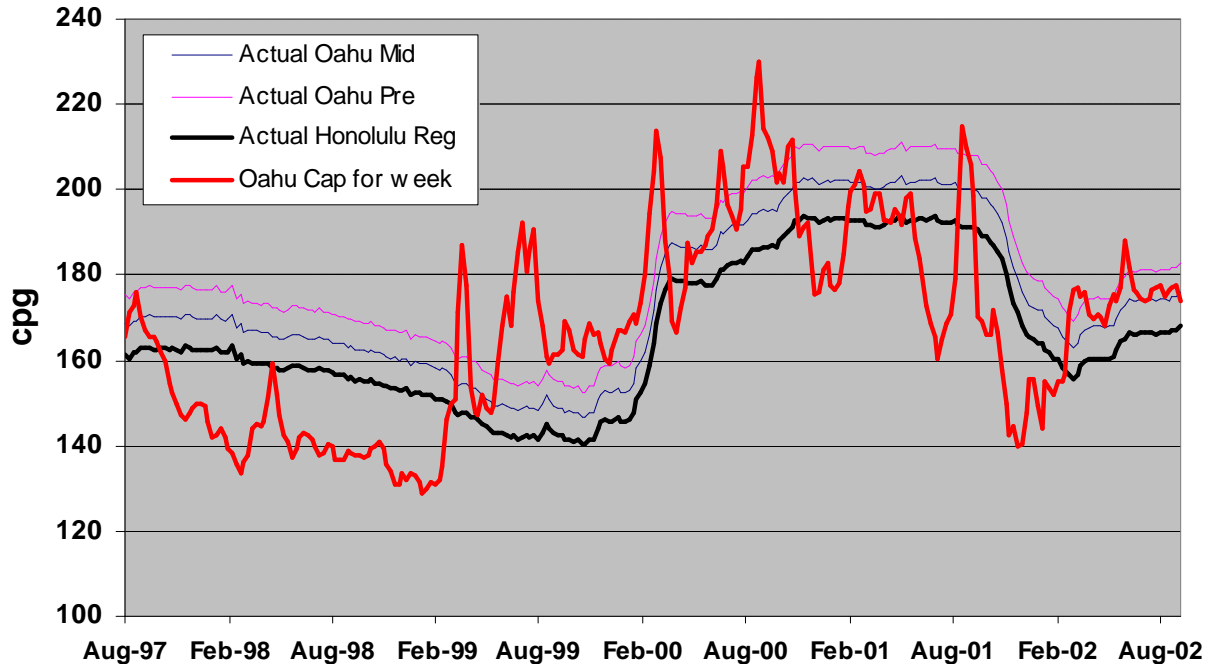
**The caps will impart California's seasonal price pattern to the non-seasonal Hawaiian prices.**



# Hawaii Cap Law



## Oahu Retail Gasoline Prices – Actual versus Cap



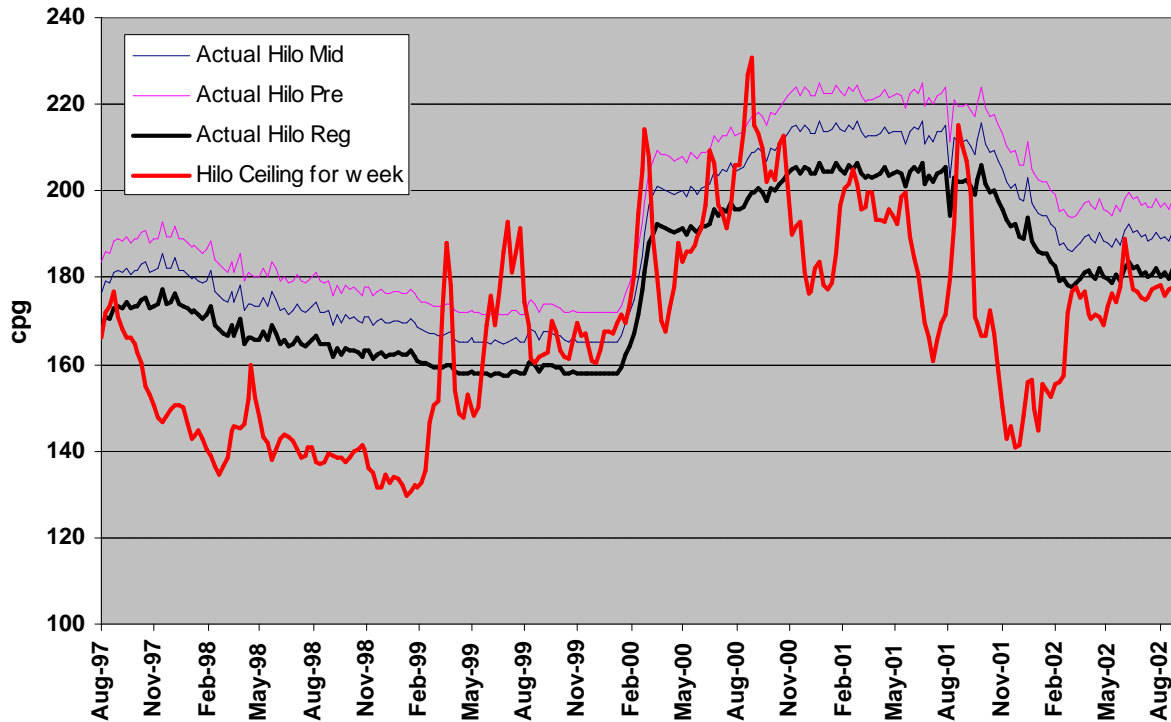
**Actual Oahu Regular Prices exceeded the price cap 47% of time**



# Hawaii Cap Law



## Hilo Retail Gasoline Prices – Actual versus Cap



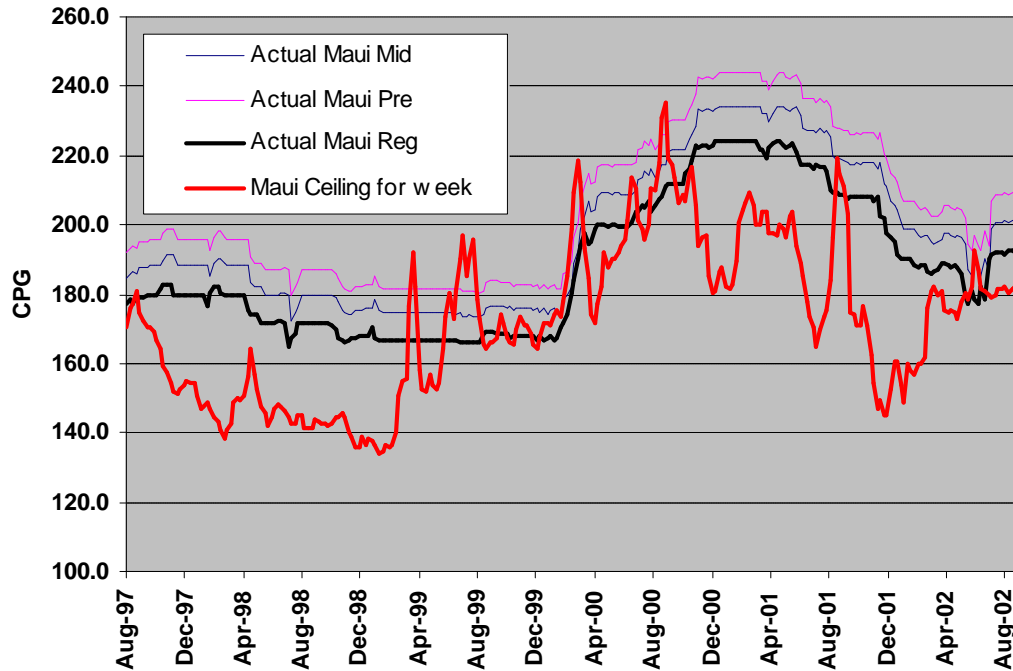
**Actual Hilo Regular Prices exceeded the price cap 74% of time**



# Hawaii Cap Law



## Maui Retail Gasoline Prices – Actual versus Cap



**Actual Maui Regular Prices exceeded the price cap 79% of time**



## Hawaii Cap Law

Reduction in Consumer Costs of Gasoline  
 Regular Prices at Lesser of Actual versus Cap  
 Other Grades at Actual Historical Differential  
 (Assumes no grade volume change)

Island	Reductions to Consumer Caps + Actual Lows		Reductions to Consumer Caps + Recovery	
	\$ MM/year	%	\$ MM/year	%
Oahu	16.5	3.7	(1.5)	(0.3)
Hawaii	7.2	6.4	4.6	4.1
Maui	7.9	8.9	3.7	4.1
Other	1.0	3.8	0.2	0.8
State	32.6	4.9	7.0	1.1

Note: Average annual calculated State gasoline bill is \$671 Million

## Agenda

- Preliminary Conclusions
- Scope & Status
- Stakeholder Meetings
- Supply/Demand Issues
- Hawaii Fuels Infrastructure
- Costs & Margins
- Market Mechanisms
- Impact of Price Caps
- Next Steps
  - Stakeholder Input
  - Quantitative Analysis
  - Formulate Solutions

## Stakeholder Input

- Finalize Stakeholder meetings
  - Phillips, utilities, Maui, Kauai, others
  - To be completed this week
  - Submit final report by mid February
- Verify specific assumptions and numbers
  - Refiner costs
  - Historical volumes & prices
  - Retail costs
- Obtain feedback from selected stakeholders (staff, legislators, key industry participants) while developing recommendations

## Quantitative Analysis

- Confirm first round analysis
  - Refiner margins by product
  - Wholesale and retail cost structure
  - Impact of import parity pricing on economic viability of local refineries
- Assess societal cost and benefits of recommendations
  - Price caps
  - Oversight and management
  - All import strategy
  - Integrated energy strategy



## Formulate Recommendations

- At this stage, the effort is still to broaden perspective rather than narrow down towards particular recommendations; alternatives still include:
  - Create market transparency
  - State owned terminal, gasoline at import parity
  - Spread refining cost over other fuels to even out market imparities
  - Creation of an integrated energy strategy, including such options as ethanol, LNG, hydrogen, and export capable refineries
- Scenario approach needed to test effectiveness of alternatives
- Likelihood of finding solutions that do not involve some trade-off between various interests is low



## *Interim Report on Fuel Price Study*

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## *Objectives*

- To investigate alternative policy options to the price cap as enacted in Hawaii.
- To research the resources that would be required for Hawaii state government to carry out tasks described in Act 77.





## *Presentation Divided in Two Sections*

3

- A review of gasoline pricing and other policies in other jurisdictions.
- An analysis of resources and staffing that would be required for the new State Petroleum Commissioner within DBEDT to carry out the requirements of Act 77.



## *Method: Policy Alternatives*

4

- Worked with DBEDT and Stillwater Associates to become familiar with Hawaii fuel price situation and policy history.
- Interviewed industry, private sector and others for background on policies in other jurisdictions
- Identified policies in numerous jurisdictions (both in and out of U.S.).
- Researched these policies through interviews, questionnaires.





## *Method: Policy Alternatives Jurisdictions Examined*

5

- California
- Prince Edward Island
- Newfoundland/  
Labrador
- Pacific Island Forum  
(Fiji)
- Delaware
- Tennessee
- Indiana
- Other states



## *Pacific Island Forum Members*

6

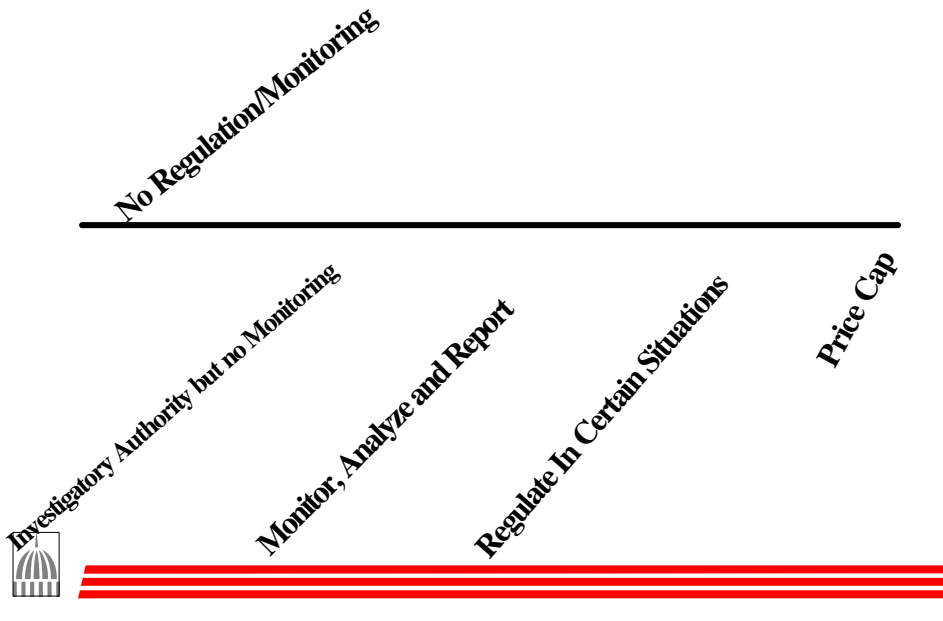
- Australia
- Cook Islands
- Federated  
States of  
Micronesia
- Fiji
- Kiribati
- Nauru
- New Zealand
- Niue
- Palau
- Papua New  
Guinea
- Republic of the  
Marshall Islands
- Samoa
- Solomon  
Islands
- Tonga
- Tuvalu
- Vanuatu





## Continuum of State Policies

7



## Policy Approaches

8

- No monitoring or investigations: most states
- Investigatory authority but no monitoring:
  - In general, this approach gives the Attorney General's office the authority to investigate potential collusive practices at its discretion. No pre-determined increase in prices or other events triggers an investigation.





## *Policy Approaches*

9

- **Monitor, Analyze and Report:**
  - In general this approach involves data collection, analysis and reporting of wholesale and retail prices. It is designed for market transparency and for potential government planning and oversight.
    - » California follows this approach
    - » A network of Pacific Islands follows this approach



## *California*

10

- **California's monitoring, analysis and reporting has multiple audiences:**
  - The public (for market transparency)
  - The legislature and governor (to alert on policy issues of concern)
  - The CEC itself (to see if action is required to remedy scarcity situations)
- **CEC will forward concerns about illegal practices to the Attorney General.**





## California

11

- The goal of CA's price monitoring is to ensure the state has a "thorough understanding of the operations of the petroleum industry...to enable it to respond to shortages, oversupplies and to assess whether all consumers, including emergency service agencies, [government] and agricultural and business consumers... have adequate and economic supplies of fuel. (CA SB 1962, 2000)



## Pacific Islands

12

- Goal of the monitoring activities is price and market transparency in order to:
  - understand how regional fuel prices are changing
  - increase awareness of prices in neighboring islands
  - highlight potential price discrepancies (due to oil company abuse or otherwise) that may impact industry development (tourism, fishing).





## *Regulate In Certain Situations* 13

- 'Zone pricing' occurs when gasoline refiners or wholesalers charge different wholesale prices throughout a city or state.
  - Oil companies claim it is necessary for competition, but some policymakers see it as anti-competitive.
  - No state has prohibited zone pricing
  - Connecticut and New York have recently considered bills to monitor, regulate or prohibit the practice
  - A Maryland report found no illegal practices but encouraged closer monitoring of the market
  - An FTC study of Western states found no illegal practices



## *Regulate in Certain Situations* 14

- 'Price gouging' is the opportunistic raising of prices during emergencies or shortages
  - Indiana statute prohibits gasoline price gouging during declared emergencies
  - Maryland considered a bill in 2002 that would have prohibited dealers from raising the price of motor fuel sold at gas stations during states of emergency declared by Governor







## *Regulate in Certain Situations*

15

- Predatory pricing refers to reducing prices, sometimes below wholesale
- Laws to prevent oil companies from selling below cost to drive out competition: Massachusetts, Maryland, New Jersey, Georgia, Minnesota, Florida, Maine, Pennsylvania, Tennessee, Wisconsin, Missouri, Colorado and Utah.



## *Regulation of Refiner/Retailer Relationship*

16

- Regulating relationship between refiner (oil company) and retailer
  - Divorcement: Oil companies may not own or directly operate gas stations
  - Lease-rent Caps: Limits on rent for gas stations
  - Other policies





## *Refiner/Retailer: Divorcement* <sup>17</sup>

- Laws prohibiting or limits gasoline companies/ refiners from owning or directly operating gasoline stations: Connecticut, Maryland, District of Columbia, Puerto Rico, Hawaii
- Nevada: Restriction on number of service stations directly operated by a refiner.
- Virginia: Minimum distance of one and one-half miles between a refiner-operated service station and one operated by a franchised dealer.



## *Refiner/Retailer: Other Policies* <sup>18</sup>

- Laws prohibiting oil company from dictating hours of operation for service stations: Oregon, District of Columbia, Georgia, Maryland
- Oil companies prohibited from requiring gas station operators to charge a certain price or to participate in promotional offers: Maryland, Georgia
- Puerto Rico and Delaware prohibit oil companies from discriminating among stations they supply





## Price Caps

19

- Price caps have been legislated in:
  - Prince Edward Island, Canada
  - Newfoundland/Labrador, Canada
  - Hawaii
- Also, similar regulatory policy used in Fiji, Tonga, Solomon Islands, Samoa, Cook Islands, Niue and American Samoa.



## Price Caps

20

- Newfoundland/Labrador
  - Petroleum Products Pricing Commission (PPPC)
    - » Continuously identifies, compiles information
      - Bulk storage, distribution systems, location and sizes of marine operations.
      - Ongoing fact finding tours to enable commissioners to meet with retailers, distributors and consumers regarding petroleum pricing issues.
      - Ensure security of supply to remote areas and factors affecting pricing to remote areas.
      - Education role





## *Newfoundland/Labrador*

21

- PPC has mandate to:
  - establish and monitor max. retail and wholesale fuel prices
    - » gasoline, home heating fuel, diesel and propane
  - work with all stakeholders to ensure fairness in marketing petroleum
  - meet to inform and educate stakeholders



## *Newfoundland/Labrador*

22

- Factors considered in setting provincial prices
  - Prices determined by world oil prices
    - » high and low world prices averaged daily
  - marketing component which includes:
    - » transportation and distribution costs;
    - » capital investment and infrastructure;
    - » volume of sales in rural and urban areas;
    - » seasonal adjustments;
    - » special circumstances: isolated communities, places where prices are seasonally frozen.





## *Policy Approaches*

23

- Considerations:
  - The cost and effectiveness of a price cap and the enforcement mechanisms necessary to implement it.
  - Consider other means that might reduce barriers to market entry and increase competition in retail gasoline markets in Hawaii.
    - » Market transparency
    - » Barriers to entry



## *Method: State Government Resources*

24

- Interviewed and surveyed jurisdictions with roughly similar functions (CA, PEI, NFL, Pacific Islands)
  - Monitoring
  - Reporting
  - Auditing and Investigations
- Spoke to Federal Energy Regulatory Commission official who is initiating similar effort for gas and electricity.





## *Budget: California example*

25

- California only monitors and reports on fuel prices.
  - The Transportation Fuel Supply and Demand Office, within the energy office, has 19 people.
  - Background ranges from 3 to 25+ years with the CEC.
  - Education ranges as high as Ph.D in engineering, economics, geography, computer science.



## *Budget: California example*

26

- California budget (annually):
  - Personnel: approximate \$1,000,000 + benefits
  - Contractual: \$100,415
  - Discretionary Operating: \$31,665
  - Student Assistant: \$25,000





## *Pacific Island Forum Budget and Staff*

27

- **Monitors and reports** gasoline and diesel prices, through newsletters. No extensive analysis as required in Act 77.
- Two full time staff + support staff
  - Director has an MBA and 25 years of industry experience.
  - Research assistant is relatively recent college graduate.
- Budget: \$65,000 + benefits for 2 staff and \$50,000 for other expenses.



## *Newfoundland/Labrador*

28

- Funding: Effective January 2001, Commission is funded through petroleum wholesalers.
  - A quarterly assessment fee per liter.
    - » \$.0004 cent per liter fuel tax, increasing to \$.0007 per liter.
    - » Fee based on volume of products sold in previous year.
    - » Commissioner can adjust or vary rate of assessment.
- Total budget \$400,000 - \$500,000 Canadian
- 6 FTE & one half-time consultant





## *Hawaii: Act 77*

### *Study Requirements*

29

- Gather, analyze, interpret:
  - Nature, cause, extent of petroleum product shortages.
  - Economic, environmental impact of shortages.
  - Industry forecasting methodology of petroleum product demand and supply.
  - Prices and changes in prices at wholesale and retail.



## *Hawaii: Act 77*

### *Study Requirements*

30

- Income, expenses, profits before and after taxes, of oil industry and firms within it. Compare data with other major industry groups.
- Emerging trends in supply, demand and conservation of petroleum.
- Nature, extent of efforts to expand refinery capacity and acquire more supply.
- Develop a petroleum and petroleum products information system.







## *Hawaii: Audit requirements*

31

- Conduct random audits and inspections to determine if they are:
  - withholding supplies from market
  - violating applicable policies, laws or rules
- Submit an annual report detailing:
  - study conclusions
  - civil penalties imposed
  - referral of violations to the attorney general



## *State Government Resources*

32

- Two types of resources will be required to fulfill functions of Act 77:
  - Full time, Dedicated, Technical, Administrative and Supervisory staff and
  - Consultant Resources
- Full time staff will perform most functions and identify major issues or concerns. They will call in consultants as needed.



## Hawaii: Staffing and Resources <sup>33</sup>

- Two major functions and options.
  - Option 1. Simply monitors and reports prices and market activity (like California or the Pacific Island Forum.) This staffing level falls short of the Act 77 requirements.
  - Option 2. Monitors, reports and also audits. This staffing level will meet requirements of Act 77.



## Hawaii: Staffing and Resources <sup>34</sup> *Option #1*

- **Monitor** and **report** on market activity.
  - Staff will be required to have a background in data analysis, petroleum industry economics and research.
  - Function will be able to rely to some extent on other sources of information, such as Platt's, the Energy Information Administration etc.





## *Hawaii Staffing and Resources* <sup>35</sup> *Option #1*

- Three full time staff required:
  - » Economist
  - » Research analyst
  - » Secretary
  
- Based on experience and analysis of California, FERC, Pacific Island Forum



## *Hawaii: Staffing and Resources* <sup>36</sup> *Option #1*

- Function will likely require 2 substantive staff plus administrative support. (3 full time staff)
- Function will also require a consulting budget for occasional expert analysis.
- Annual Budget likely:
  - » \$155,000 + benefits for 3 staff
  - » \$75,000 for consultants and other expenses
    - Other expenses include office expenses, subscriptions, printing, electronic data services (Platts, Oil Price Information Service, Lundber report).





## *Hawaii: Staffing and Resources* <sup>37</sup> *Option #2*

- Function that monitors, reports and also **audits**.
  - This function will require considerably more resources, depending on the purpose of the audit.



## *Staffing for Option #2* <sup>38</sup>

- Full time staff skill sets will consist of the following:
  - Petroleum Economics
  - Chemical Engineering
  - Law
  - Finance
  - Auditing
  - Data Analysis
  - Support Staff and Web Support.





## *Staffing for Option #2*

39

- Staff required
  - Economist, with background in petroleum economics
  - Chemical engineer
  - Attorney
  - Audit staff (likely two to three audit staff required)
  - Research Analyst
  - Administrative Support
- Estimate 7 staff + Commissioner.



## *Budget for Full Monitoring and Audit Functions (Option #2)*

40

- As required by Act 77:
  - Budget is likely to be:
    - \$375,000 + benefits
    - Consulting budget in case of discovery of significant anomalies: \$100,000.
    - Other expenses: \$25,000
      - » Other expenses include such items as office expenses, printing, subscriptions, electronic data services etc.





## *DBEDT Role*

41

- The State Energy Resources Coordinator (ERC) serves as the chief State energy advocate, policy developer and planner, and energy advisor to the Governor and other government and private organizations.



## *DBEDT Role*

42

- The audit and compliance enforcement function represents a new element and function for DBEDT.
  - Changes to the mission statement and/or authorizing legislation for DBEDT may be required.
  - Do the roles of independent policy advisor and enforcer conflict with one another in any way.

