



California's Gasoline Market Post MTBE Phaseout & the Summer Ahead

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Presentation Topics

- Overview of California's petroleum market
 - Refineries & distribution
 - Demand & supply outlook
 - Imports & infrastructure
 - Price issues
- Status & impacts of MTBE phaseout
 - Ethanol
 - Refinery production
 - Imports
- Summer outlook



Overview – Refineries and Distribution



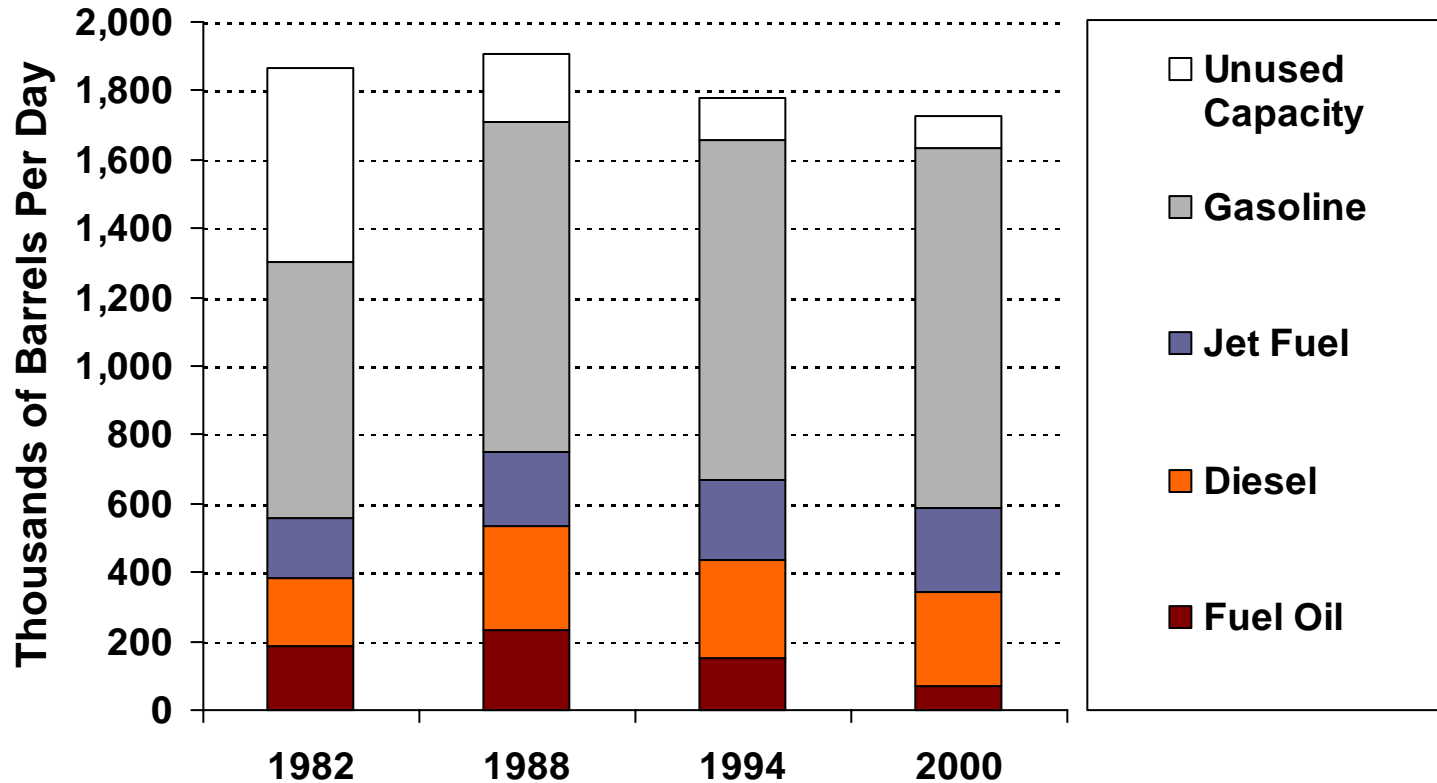


Overview - Refineries

- 13 refineries in California produce reformulated gasoline
- 9 smaller facilities produce diesel, jet fuel and asphalt
- California refineries are at or near capacity, especially during the summer months
- 1969 was the last time a new “grass roots” refinery was constructed in the United States – Benicia facility in Northern California previously owned by Exxon
- Independent refiners have increased their presence in California
- Expansion projects are possible. Permits and emission offsets are difficult to obtain
- Through the Integrated Energy Policy Report process, the Energy Commission recommended that the State take steps to streamline permitting



California Refinery Capacity



CA refinery runs and gasoline production at maximum capacity

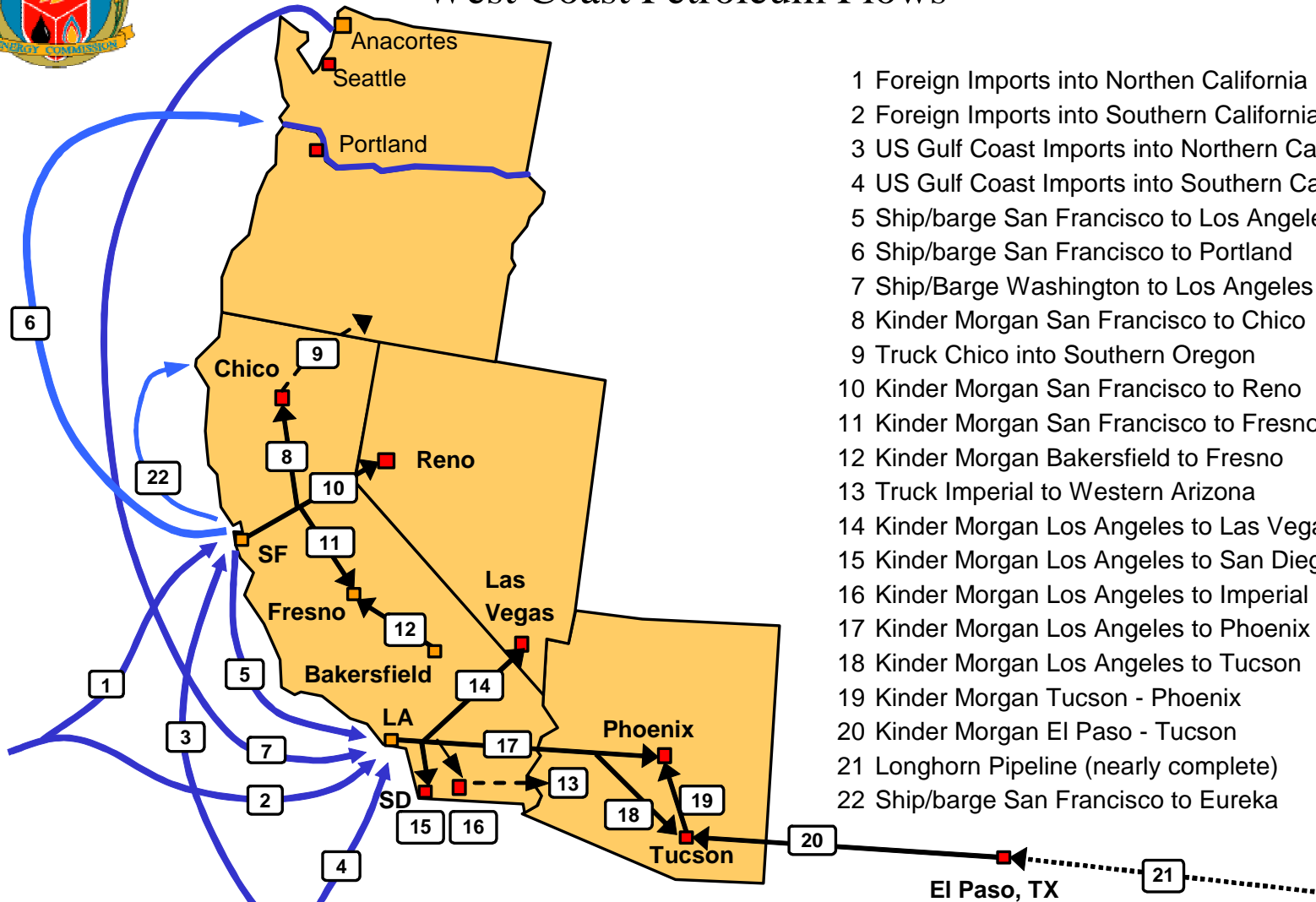


Overview – Distribution of Petroleum Products

- Refineries in the State produce transportation fuels for use in California & other locations – 1,600 thousand barrels per day (TBD)
- California supplies transportation fuels for neighboring states
 - Nevada – nearly 100 percent – 150 TBD
 - Arizona – 61 percent – 139 TBD
 - Oregon – about 35 percent – 37 TBD
- Imports of petroleum products arrive via marine vessels and rail car
- Exports of petroleum products by pipeline, marine vessel, rail car and tanker



West Coast Petroleum Flows



- 1 Foreign Imports into Northern California
- 2 Foreign Imports into Southern California
- 3 US Gulf Coast Imports into Northern California
- 4 US Gulf Coast Imports into Southern California
- 5 Ship/barge San Francisco to Los Angeles
- 6 Ship/barge San Francisco to Portland
- 7 Ship/Barge Washington to Los Angeles
- 8 Kinder Morgan San Francisco to Chico
- 9 Truck Chico into Southern Oregon
- 10 Kinder Morgan San Francisco to Reno
- 11 Kinder Morgan San Francisco to Fresno
- 12 Kinder Morgan Bakersfield to Fresno
- 13 Truck Imperial to Western Arizona
- 14 Kinder Morgan Los Angeles to Las Vegas
- 15 Kinder Morgan Los Angeles to San Diego
- 16 Kinder Morgan Los Angeles to Imperial
- 17 Kinder Morgan Los Angeles to Phoenix
- 18 Kinder Morgan Los Angeles to Tucson
- 19 Kinder Morgan Tucson - Phoenix
- 20 Kinder Morgan El Paso - Tucson
- 21 Longhorn Pipeline (nearly complete)
- 22 Ship/barge San Francisco to Eureka

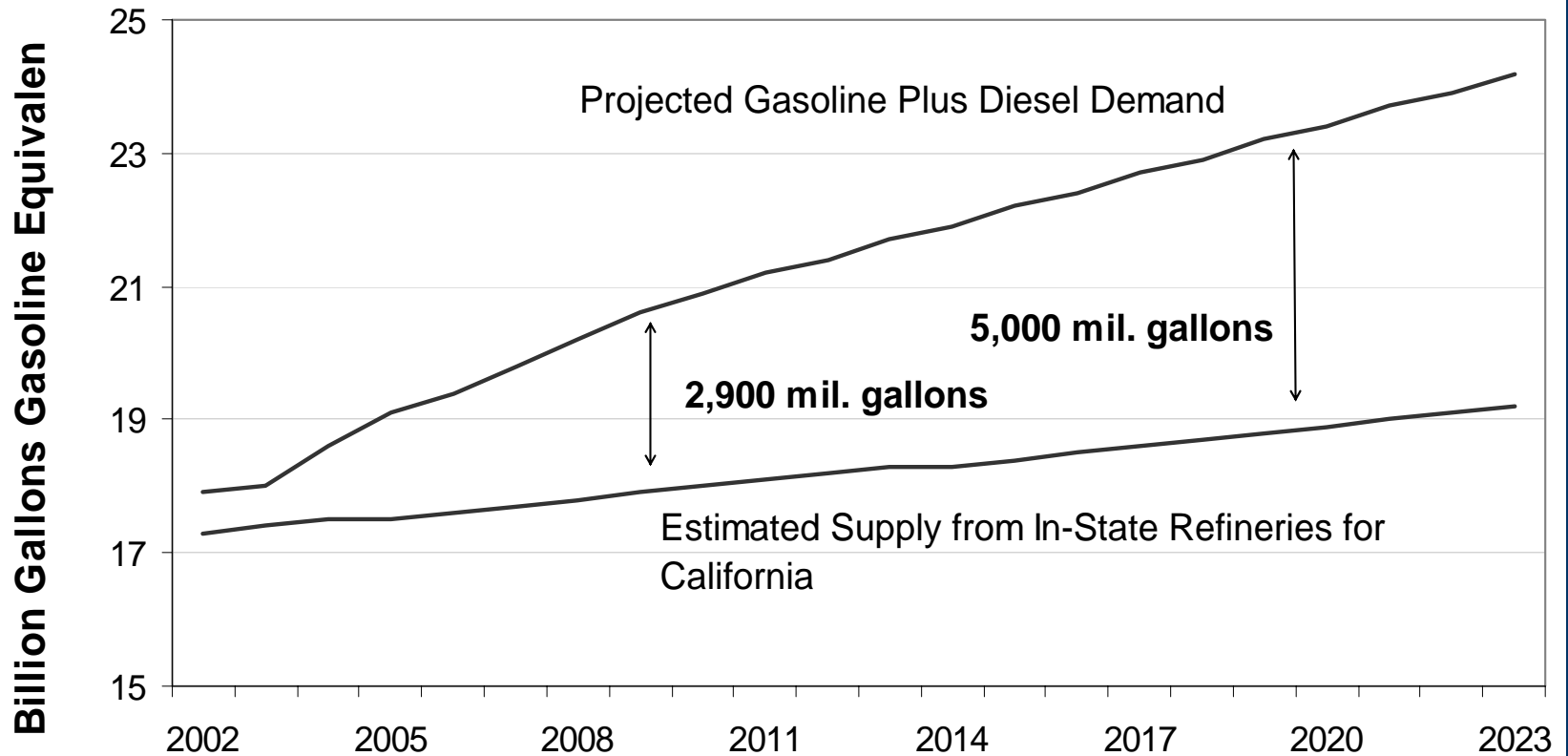


Overview - Demand & Supply Outlook

- Gasoline demand in California during 2003 estimated at 15.6 to 16 billion gallons, diesel fuel demand 2.8 to 3 billion gallons
- California represents nearly 12 percent of United States gasoline demand
- Demand for California transportation fuels expected to increase between 1.6 and 2.5 percent per year
- Refinery capacity increases have been small over the last several years, but could see some future gains
 - ConocoPhillips & Valero projects
- Refineries operate at or near maximum capacity, little ability to “ramp up” production
- Imports will become a growing and important source of supply for California



Projected Transportation Demand versus Supply





Overview - Imports & Infrastructure



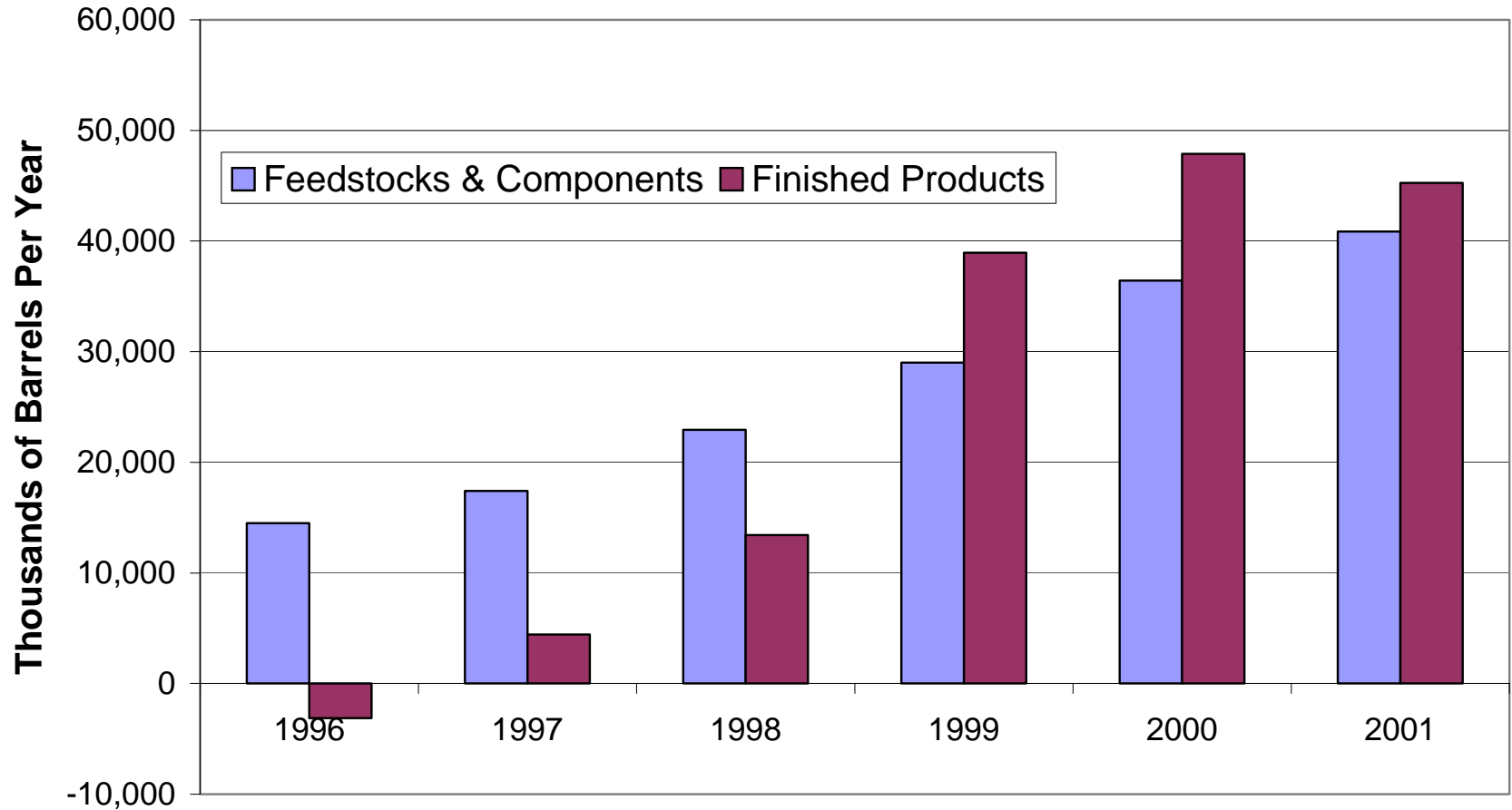


Overview - Imports

- California shifted from a net exporter of finished petroleum products (transportation fuels) to a net importer in 1997
- Imports of refinery feedstocks and blending components also continue to grow
- This import trend is expected to continue over the next 10 to 20 years
- Crude oil imports are also forecast to rise as California oil production continues to decline
- The Energy Commission has evaluated the marine logistics and determined that the infrastructure to handle imports is becoming constrained
 - New study will focus on bottlenecks that could impact logistical movements at the water and further inland

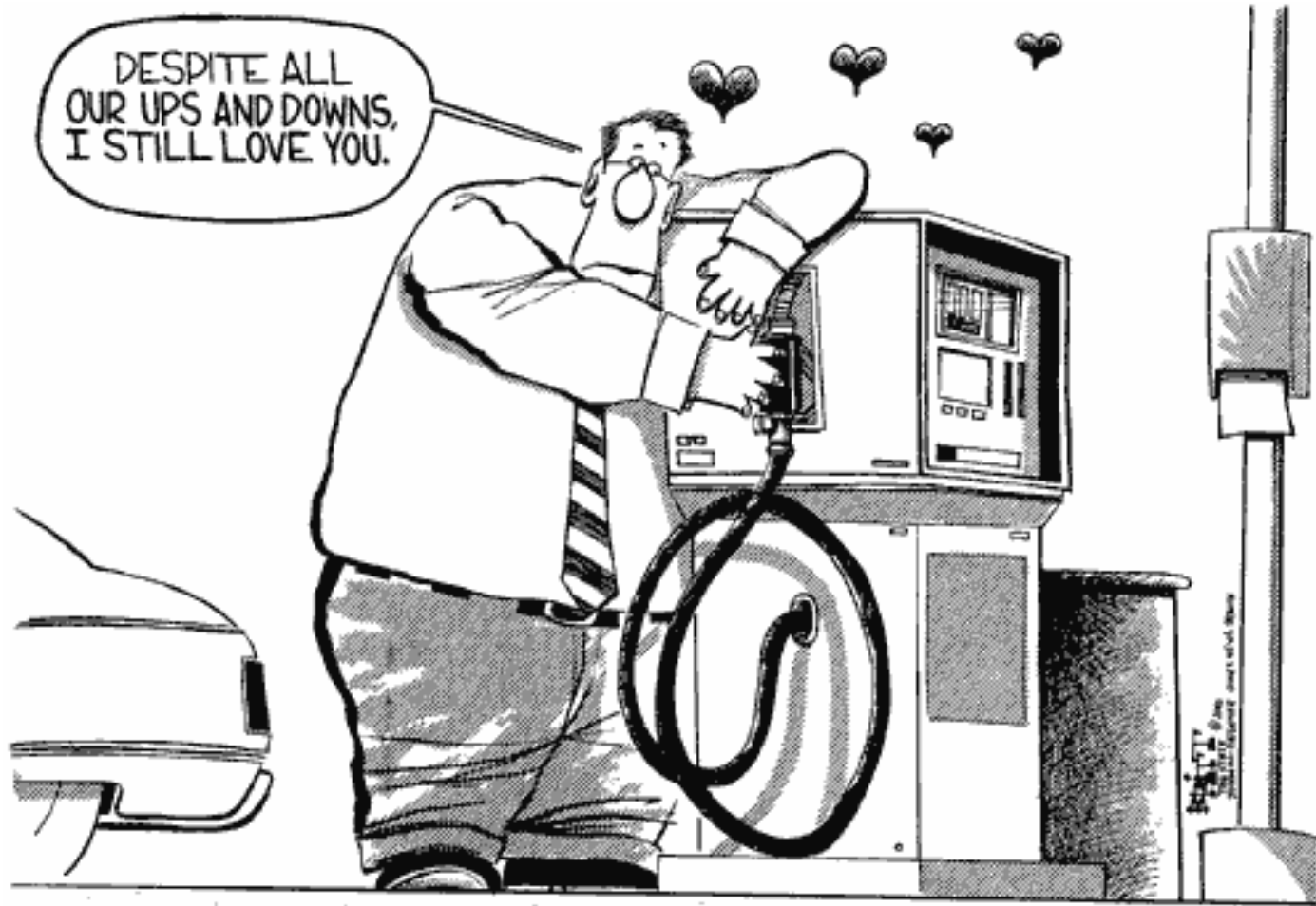


California Net Imports Domestic and Foreign Sources 1996 through 2001





Price Issues





Overview - Price Issues

- California retail gasoline prices are normally higher than U.S. average
 - Higher quality, cleaner burning reformulated gasoline is more expensive to produce than other types of gasoline sold throughout the rest of U.S.
 - California is a net importer of gasoline and blending components to meet demand, adding to the supply costs
 - Steadily increasing demand for transportation fuels
 - Declining spare refining capacity & inventory levels
 - The elimination of MTBE has reduced the supply of gasoline in California
 - Higher than average fuel taxes
- The average difference has increased from just over 10 cents in 1995 to over 26 cents since January of 2003

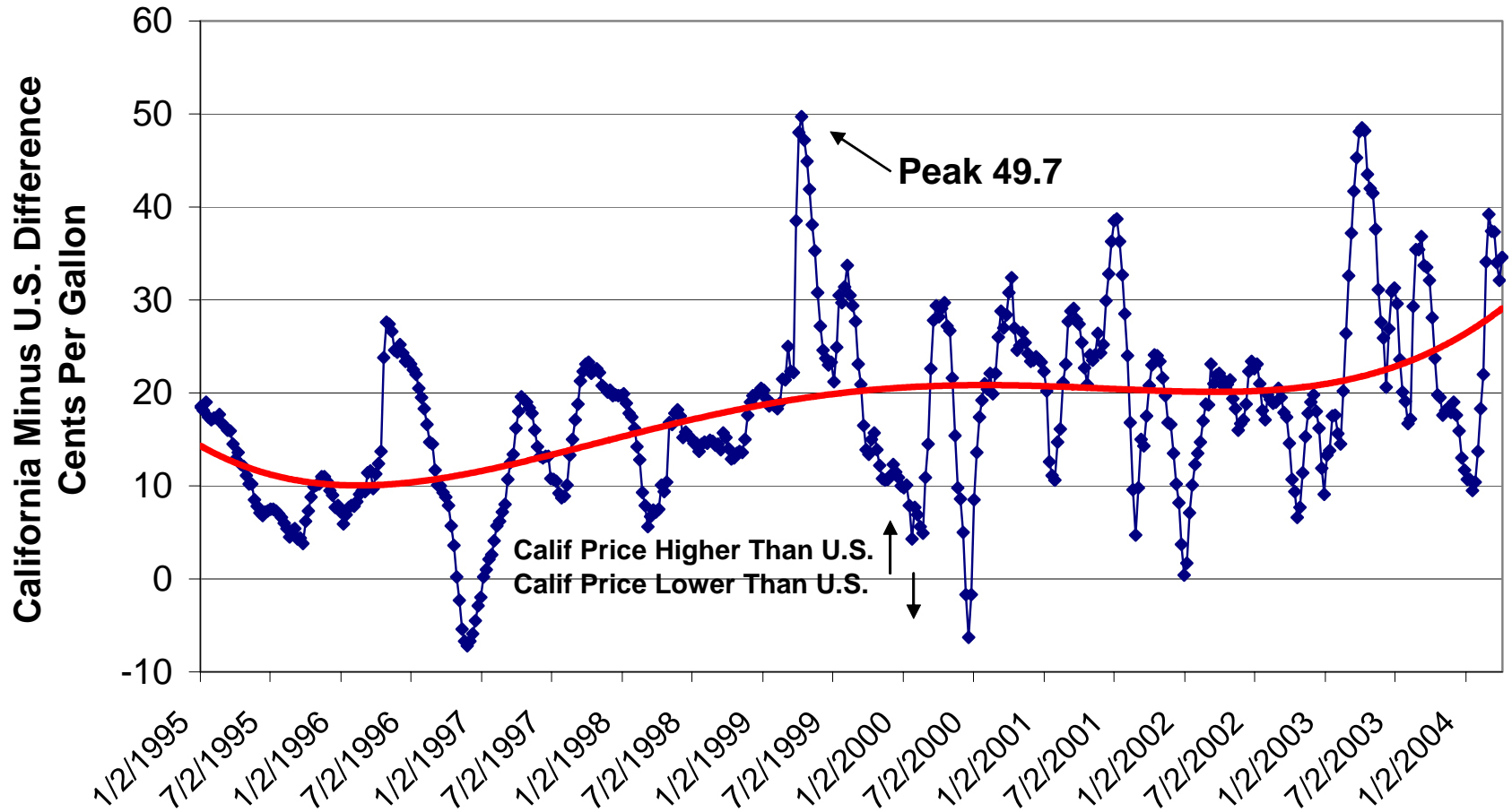


Overview - Price Issues (cont)

- Volatility (price swings) has also increased
 - Market is geographically isolated from alternative sources of supply by 2 to 6 weeks
 - Refinery problems have resulted in price spikes, some times in excess of 50 cents per gallon
 - Greater volatility could continue if quality imports become scarce or the infrastructure to handle the additional volumes is further constrained

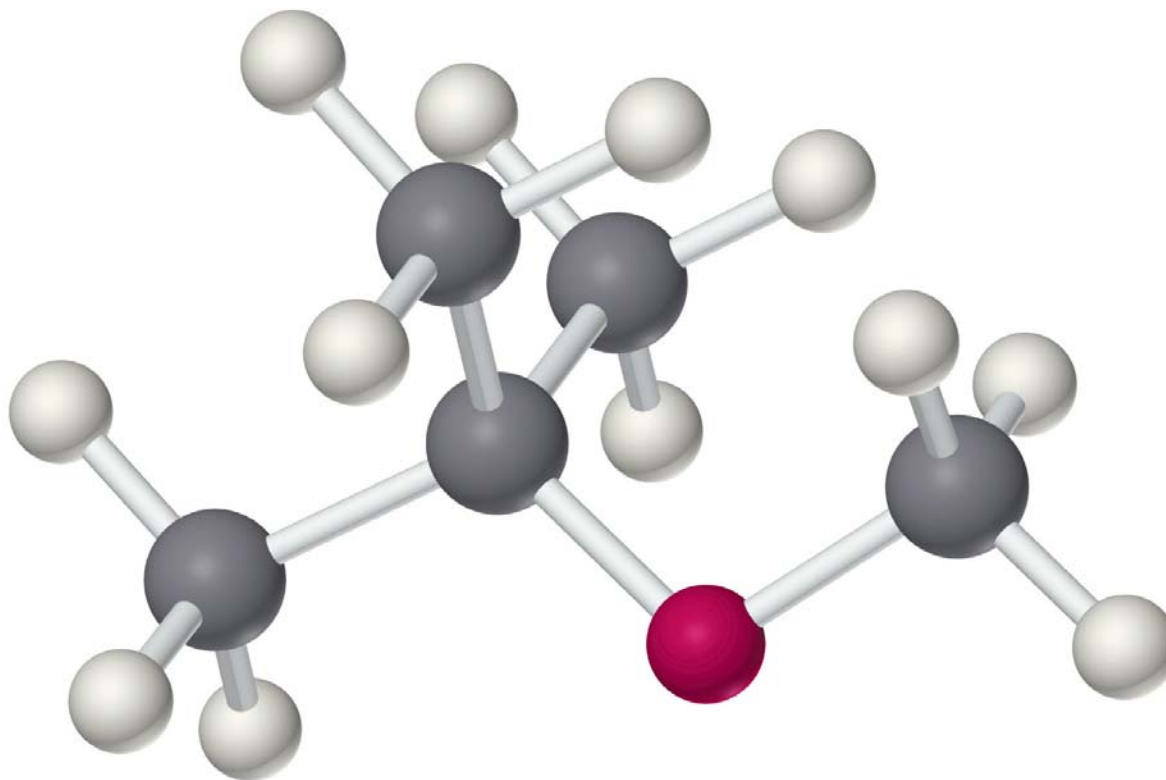


California Gasoline Volatility January 1995 to April 5, 2004





Status & Impacts of MTBE Phaseout



Methyl *tert*-butyl ether



Status of MTBE Phaseout

- Phaseout of MTBE from California gasoline has been completed
 - 60 to 70 percent of the state's gasoline was produced without MTBE during 2003
 - Rest of California refiners completed the transition during November of 2003 (switch to winter gasoline)
 - Most service stations completed transition during January of 2004
- California regulations currently allow trace amounts of MTBE
 - Maximum concentration of 0.6 percent by volume
 - This “cap” will be lowered over time to 0.05 percent by volume
 - Imports of gasoline and components would have been curtailed if standard was set to zero

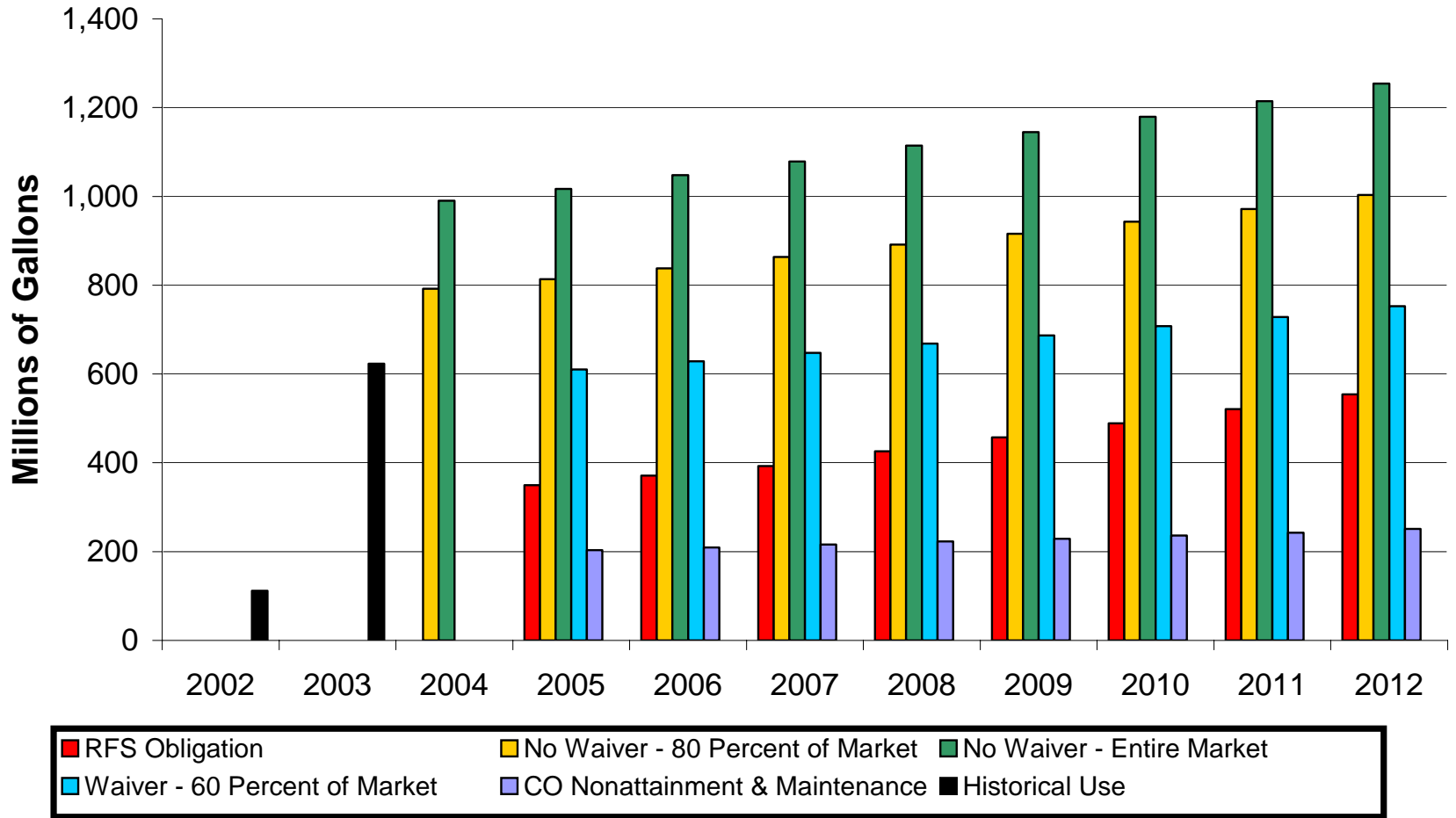


Impacts of MTBE Phaseout

- Demand for ethanol will increase
 - California using significant quantities of ethanol
 - 765 to 980 million gallons for 2004
- Supply is keeping pace
 - Energy Commission survey (October 2003) of ethanol industry concluded that supply should be sufficient to meet California's incremental ethanol demand
 - Current U.S. ethanol production capacity approximately 3.2 billion gallons per year, will increase to 4 billion gallons by end of 2006 (plants under construction)

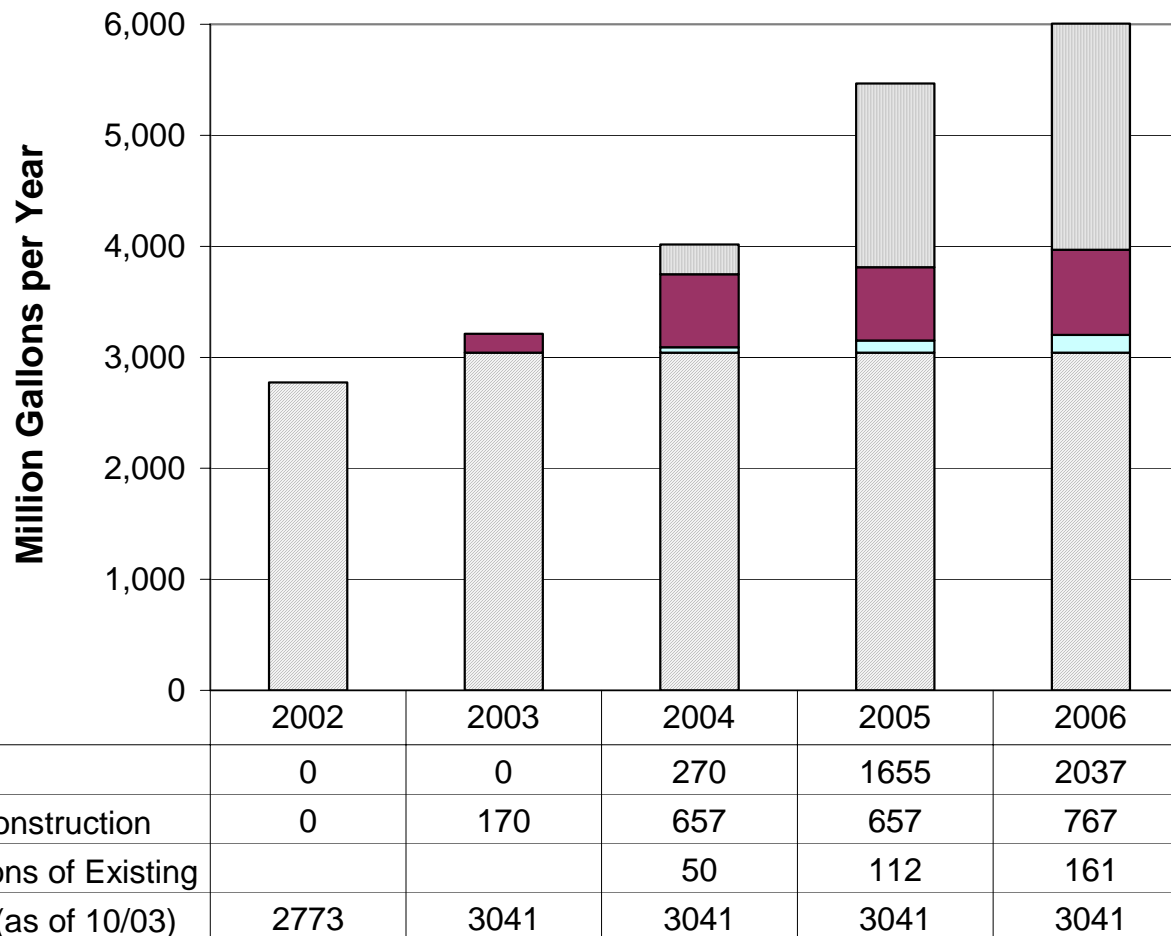


Projected California Ethanol Use High Case Gasoline Demand - 3 Percent Per Annum





Projected USA Ethanol Capacity @ End of Year



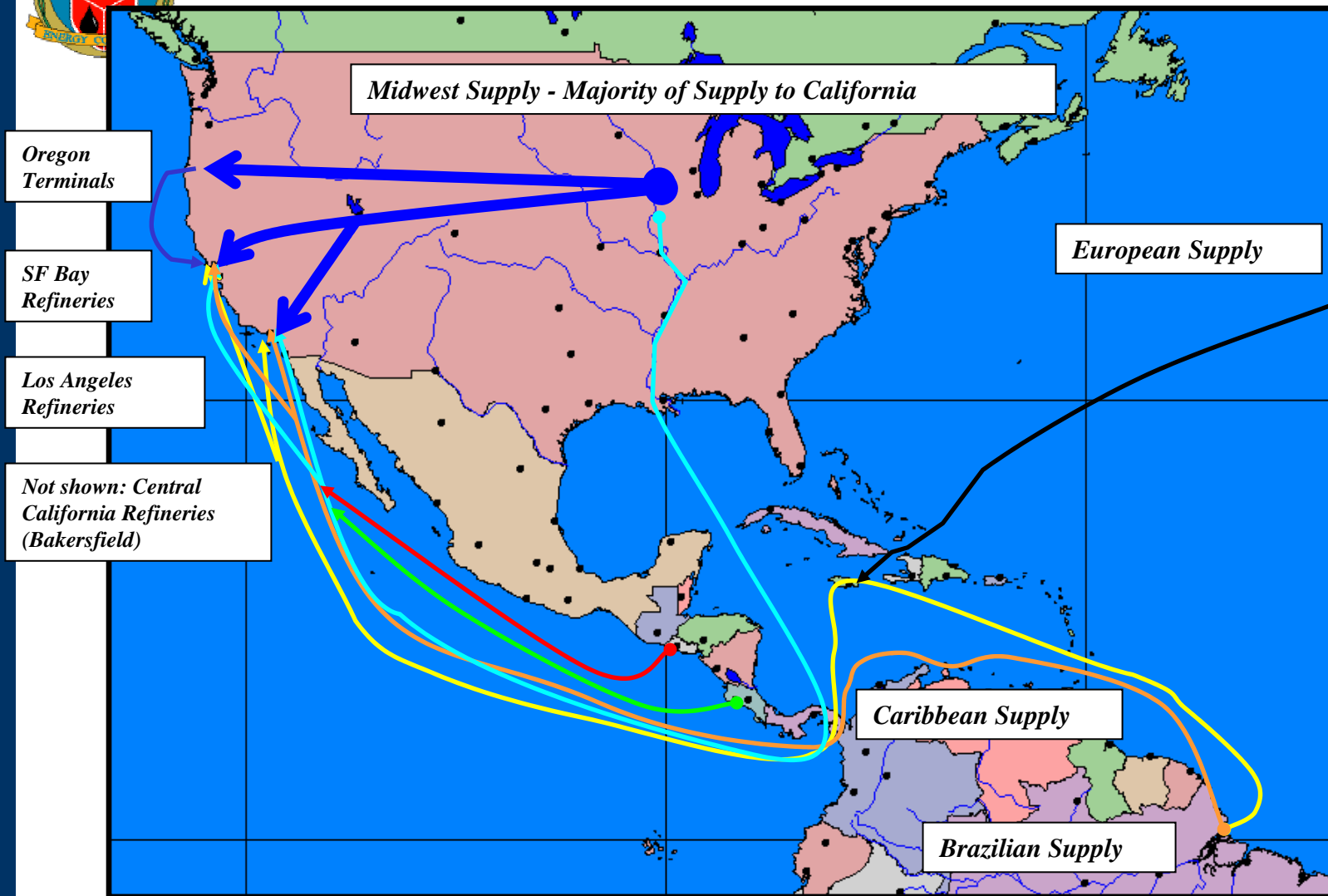


Impacts (cont)

- Ethanol logistics
 - Large shipments of ethanol began to arrive in California during December of 2002 – no significant problems to date
 - Ethanol supplies delivered to California via rail and marine vessel from Midwest & Caribbean sources
 - Ethanol is delivered to main staging areas before being trucked to gasoline terminals
 - Modifications completed to allow terminal in Southern California to receive “unit trains”
 - Refiners will try and keep ethanol inventories at high levels as a hedge against a potential interruption of deliveries
 - Pipeline operators do not ship ethanol through their systems due to increased potential for pipeline corrosion



Ethanol Sources and Transportation





Impacts (cont)

- Gasoline production from California refineries will decline
 - Volume lost because ethanol use less than MTBE
 - 6 versus 11 percent
 - To help compensate, refiners have:
 - Increased alkylate production
 - Imported more blending components
 - Converted some conventional gasoline to RFG
 - Summer 2004 production decline estimated to be approximately 1 percent



Impacts (cont)

- Demand for imported components will increase
 - Phase 3 RFG for ethanol blending is a more difficult formulation to produce for refiners outside the U.S.
 - Market price of premium blending components expected to rise
 - High octane, low sulfur & low volatility key properties
 - NY & CT phaseout of MTBE will increase competition for these products
 - Lower sulfur levels for gasoline will increase demand for imports of cleaner components



Outlook for the Summer Driving Season

- Other factors that could tighten gasoline supplies
 - Stronger than anticipated chemical and gasoline demand
 - Decreased availability of domestic shipping assets
 - Pending closure of the Shell Bakersfield refinery
- Other factors that could improve gasoline supplies
 - Approval of the oxygen waiver
 - Completion of the Longhorn Pipeline



Summer Outlook (cont)

- Strong resurgence of demand for chemicals and gasoline could place upward pressure on prices
 - Chemical markets are attracting feedstocks that were formerly used to produce alkylates
 - Chemical markets are also attracting components that were formerly blended into gasoline
 - Recent statistics for 1st quarter of 2004 indicate that gasoline demand for the West Coast could be strong relative to 2003
- Availability of domestic product tankers has declined
 - Continued ship retirements & Military Sealift Command activity
 - Decreased likelihood that significant movements of alkylate and other gasoline components from the U.S. Gulf Coast could be sustained in the event of a major refinery outage in California this summer



Summer Outlook (cont)

- Shell plans closure of Bakersfield refinery
 - Bakersfield refinery is scheduled to cease operations by 10/1/04
 - Shell plans to continue operating and make modifications to their terminal at the refinery
 - Shell's Bakersfield refinery produces the majority of the gasoline and diesel fuel for the region by processing heavy crude oil from the San Joaquin Valley
 - Shell has publicly stated that their refinery produces 2 percent of the gasoline (20 TBD) for the State and 6 percent of the diesel fuel (15TBD)
 - October 1 closure date occurs at a point in the year when gasoline demand has usually passed its peak
 - Temporary difficulties could arise as market transitions to new supply sources and logistics



Summer Outlook (cont)

- Waiver of the federal minimum oxygen requirement is important for California
 - Increased flexibility should improve gasoline economics
 - Discretionary versus mandated use of ethanol
 - Gasoline supply potential from outside sources would increase
 - Phase 3 reformulated gasoline without oxygenates is easier to produce
 - A greater number of refiners outside of California could be available to help supply our demand for imports



Summer Outlook (cont)

- Completion of Longhorn Pipeline project could indirectly increase supplies for California
 - Completion scheduled for this summer would allow additional fuel supplies to be delivered from the U.S. Gulf Coast to West Texas and Arizona
 - California refiners supply majority of gasoline to Arizona
 - Additional gasoline deliveries to Arizona from West Texas could reduce gasoline shipments from California refineries
 - But the full potential of indirect supply benefit for California could be delayed until expansion of Kinder Morgan's East Line between West Texas and Arizona is completed