Refining and Marketing

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Refining in Alaska

**PetroStar**
- North Pole
  - 17,000 bpd
  - Kerosene, diesel, and jet fuels
- Valdez
  - Newest refinery in US
  - 50,000 bpd
  - Jet fuel, marine diesel, and home heating oil

**Flint Hills**
- North Pole
  - 220,000 bpd
  - Jet fuel, heating oil, gasoline, diesel
  - 60% of Anchorage Jet Fuel

**Tesoro**
- Nikiski
  - 72,000 bpd
  - Jet Fuel, gasoline, diesel
  - 40% of Anchorage jet fuel
Tesoro - A Collection of Independent Refiner/Marketer Companies

- No upstream assets
  - Headquartered in San Antonio, Texas
  - Seven Refineries
  - 660,000 bpd total crude capacity
  - Retail network of over 850 sites
  - 5,500 Employees
  - Traded on NYSE: symbol TSO

- Kenai, Alaska
  - 72,000 bpd
  - Key products: Jet & Gasoline

- Martinez, California
  - 166,000 bpd
  - Key products: CARB Gasoline & CARB Diesel

- Wilmington, California
  - 100,000 bpd
  - Key products: CARB Gasoline & CARB Diesel

- Kapolei, Hawaii
  - 94,000 bpd
  - Key products: Jet & Gasoline

- Anacortes, Washington
  - 115,000 bpd
  - Key products: Gasoline & Diesel

- Salt Lake City, Utah
  - 58,000 bpd
  - Key products: Gasoline & Diesel

- Mandan, North Dakota
  - 58,000 bpd
  - Key products: Gasoline & Diesel

- Corporate Office
- Auburn Office
- Denver Office
- Long Beach Office
- Singapore Office
- Calgary Office
- San Antonio Office
- Martinez Office
- Wilmington Office
- Kapolei Office
- Anacortes Office
- Salt Lake City Office
- Mandan Office

Tesoro - A Collection of Independent Refiner/Marketer Companies
Kenai Refinery

**History**
- Built in 1969
- Constructed to operate on 100% ACI
- Crude capacity 17,500 b/d (17 employees)
- Cook Inlet production peaked at 225,000 bpd in 1970

**Today**
- 72,000 bpd nameplate crude capacity
- Employs over 200 people
- Award-winning safety record
- Product mix
  - Propane
  - Gasoline
  - Jet Fuel
  - Diesel Fuel
  - Heavy Vacuum Gas Oil
  - Fuel Oil / Bunker
  - Road Asphalt
Crude Types

- Alaska North Slope - approximately 50%
- Cook Inlet - approximately 25%
- Light Foreign - approximately 25%
Foreign Crude

- Oseberg
- Sokol
- Vityaz
- Labuan
- Kutubu
- SLEB & Champion
- Griffon, Cossack
- Amenam
Marine Operations

• Three Jones Act double-hull tankers
• Double-hull ice-class foreign tankers
• Assist tug for Cook Inlet
Products Distribution

REFINERY SUPPLY AND DISTRIBUTION

Nikiski Terminal
Local Distribution

Asphalt, Propane
& Butane Loading
Racks

Anchorage Terminals

Tesoro Pipeline

Refinery

Anchorage International
Airport
ASIG

KPL Dock
Tankers & Barges

Kenai Pipeline

Crude from Cook Inlet
& Swanson River

Looking Ahead
Tesoro Alaska Pipeline

ANCHORAGE

COOK INLET

Kenai Refinery
Tesoro’s Anchorage tank farm
Tesoro Marketing in Alaska

- 31 company-owned convenience stores - 29 sell fuel
- 56 wholesale branded sites as of 10-17-08
Commodity fundamentals

- If the market experiences an oversupply of a commodity, prices fall
- If demand for a commodity cannot be met, prices increase
- Commodity markets, in the short term, are agnostic to the cost to produce
- In the long run, if commodity producers go out of business, the remaining producers must fill the customer demand, and prices likely will rise
- Two commodity examples that Alaskans are more familiar with:
  - Salmon
  - Oil
Refining/marketing has gotten very complicated over the past decades

- Lead
- Oxygenate
- Vapor recovery
- Sulfur
- Spill response
- Pipeline integrity
- Underground storage tanks
- Flares
- Mixing zones
- PWS and CI marine navigation
- Above-ground storage
- Transportation Security Administration
- Metrology
- Biofuels in the NW
- Boutique fuels

Up next:
- Benzene
- Greenhouse gases
- Beluga whales
Refiner investment just to stay in business

U.S. Environmental Expenditures since 1990 (by sector)

Independent refiner

• An independent refiner’s economic model is based on being more efficient and providing a competitive alternative to an integrated major.
• An independent refiner does not profit from high prices, but makes profit/loss based on the difference between the market cost of crude and market price of products
Two manufacturers, but lots of marketers

- Refiners make product (gasoline, diesel, jet, bunker, propane, etc.) on a ratable basis – let’s say 50,000 barrels per day.
  - Low complexity refineries like those in Alaska have limited ability to vary the mix of production, and all refineries have minimum run rates and it is very complicated to turn refineries off, and then back on
  - Refiners, like all manufacturers, follow best-practices that encourage just-in-time inventories
  - Each refiner builds storage and distribution networks to satisfy customer needs, but does not engage in long-term storage of product

- Refiners then have to sell those 50,000 barrels of product on a ratable basis – every day, 365 days a year

- Which means that a refiner sells products in the following ways (referred to as “channels”):
Marketing terminology

• Retail
  – Company operated sites that sell fuel to the public
  – Refiner/marketer invests capital; owns/leases real property
  – Refiner/marketer employs staff

• Wholesale Branded Rack Sales
  – Distributors
    • Long-term commitment
    • Brand offerings (advertising, promotion, credit cards network and settlement)
    • Refiner/marketer invests capital for image
  – Dealers
    • Individual retailers that purchase refiner branded products
    • Long-term commitment
    • Refiner brand offerings (advertising, promotion, credit cards network and settlement)
    • Refiner/marketer invests capital for image
Marketing terminology (cont.)

• Wholesale Unbranded Rack Sales
  – Contract
    • Term supply commitment that establishes volume and pricing basis
    • No brand support
  – Open Rack
    • Flexible supply arrangement that does not obligate either party on volumes
    • No brand support

• Bulk Sales
  – Large volume sales to customers with significant infrastructure and financial strength
    • Waterborne sales over wharf
    • Terminal sales
  – Exchanges
    • Deliveries (receipts) with other suppliers
Demand

2007 Gasoline Demand

Millions of gallons

Source: Federal Highway Administration
Jet fuel sold at ANC/FAI vs. total gasoline demand

2007 ANC/FAI Jet Sales vs. Total State Gasoline Demand

Sources: AK International Airport System and Federal Highway Administration
The market for Kenai “bottoms”

Spread between Seattle 380 FOB and ANS Long Beach
OPIS and Platts, exclusive transportation

$/Bbl

-50 -40 -30 -20 -10 $0 $10 $20 $30 $40 $50

Jan-07 Feb-07 Mar-07 Apr-07 May-07 Jun-07 Jul-07 Aug-07 Sep-07 Oct-07 Nov-07 Dec-07 Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08

Looking Ahead
Alaska market shows more seasonality

2007 Demand

% annual average

Source: Federal Highway Administration, DOE
Average monthly gallons sold per retail site

Sources: Energy Information Agency, National Petroleum News
Price is determined by last barrel into market

When supply and demand are not balanced, Alaska prices reflect import or export parity from PNW and/or Asian alternatives.
West coast market volatility

PNW Daily Volatility

Source: OPIS
Daily comparison of prices (ex. tax)

AK Street Comparison to Other Markets

Source: OPIS and Platts
Daily street percentage spread Anchorage – Platts ANS (ex. tax)

Source: OPIS and Platts
Value-add success story

- Over 39 years of adding value to Alaska oil
- Alaskans employed to make products that Alaskans buy
- Economists conclude that refineries result in a jobs multiplier of nine – so today the Kenai Refinery accounts for 1,800 jobs
- The existence of in-state refineries has helped underpin the growth of the international air cargo business
- The air cargo business has helped Alaska refiners to continue making gasoline and diesel
- Even though we are geographically distant from large fuel markets, reliability of supply is excellent