Fueling U.S. Light Duty Diesel Vehicles

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NYSE: COP

Core Activities

- Petroleum & natural gas exploration & production
- Petroleum refining, marketing, supply & transportation
- Natural gas gathering, processing & marketing
- Chemicals & plastics production & distribution

Size & Scope

- 3rd largest international integrated energy company in the U.S.
- $137 billion 2004 revenues, $93 billion assets
- 35,800 employees; operations in over 40 countries
- Largest U.S. refiner & 5th largest worldwide among non-government controlled companies.

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Refining & Marketing Operations

- **2.2 million barrels/day U.S. crude oil capacity, 12 refineries, all regions**
- **6 non-U.S. refineries in 5 countries**
- **12,600 Conoco®, Phillips 66® and 76® branded motor fuels marketing outlets in U.S.**

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Refinery capacities in thousands of barrels per day including crude oil and other feedstocks.

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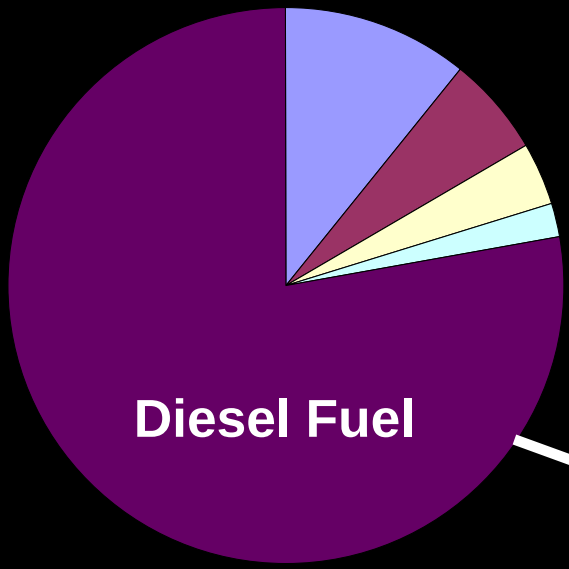
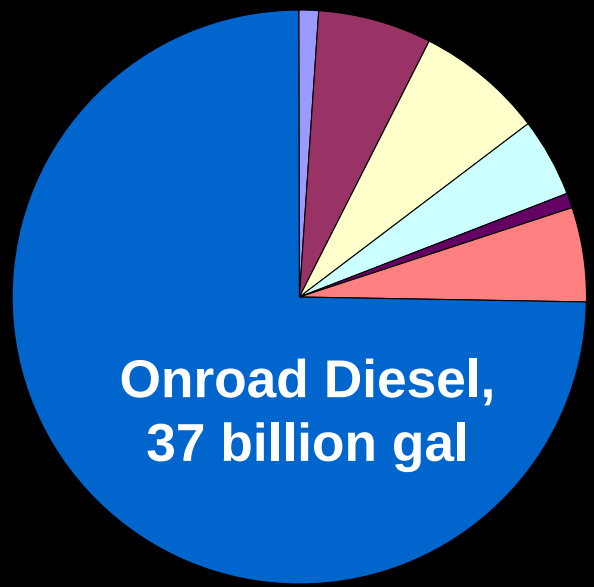
Onroad Diesel Accounts For About 60% of U.S. Distillate Fuel Demand



- Residential
- Commercial
- Industrial
- Electric Power
- Engine Use

2003 Distillate Demand: 64 billion gallons

2003 Diesel Demand: 50 billion gallons



- Oil
- Farm
- Railroad
- Marine
- Military
- Off Road
- On Road

Source: DOE/EIA-0535(03), Fuel Oil and Kerosene Sales 2003, published Nov, 2004

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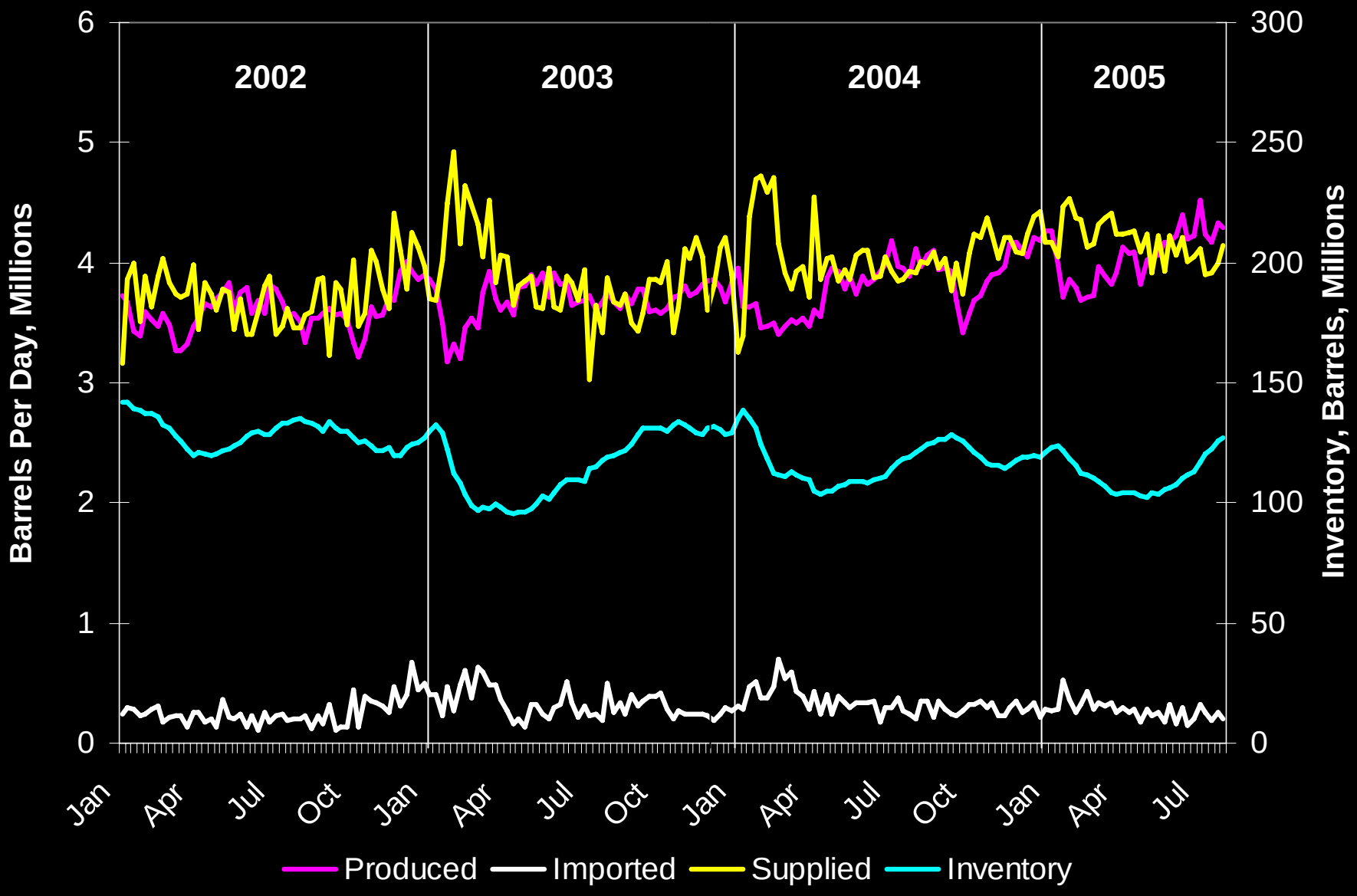
U.S. Distillate Supply-Demand 2002-05



Source: EIA

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Light Duty Diesel Vehicles: Will a Significant U.S. Market Emerge?

- European light duty diesel vehicle market is supported by tax policy strongly favoring diesel.
- U.S. NOx emission regulations challenge diesel emission control technology & vehicle manufacturing costs.
- Diesel is only one option for significantly improving fuel economy.
- Heavy duty diesel pickups are popular & new diesel automotive products have been well received.
- Diesel could become especially significant in pickup and SUV segments.

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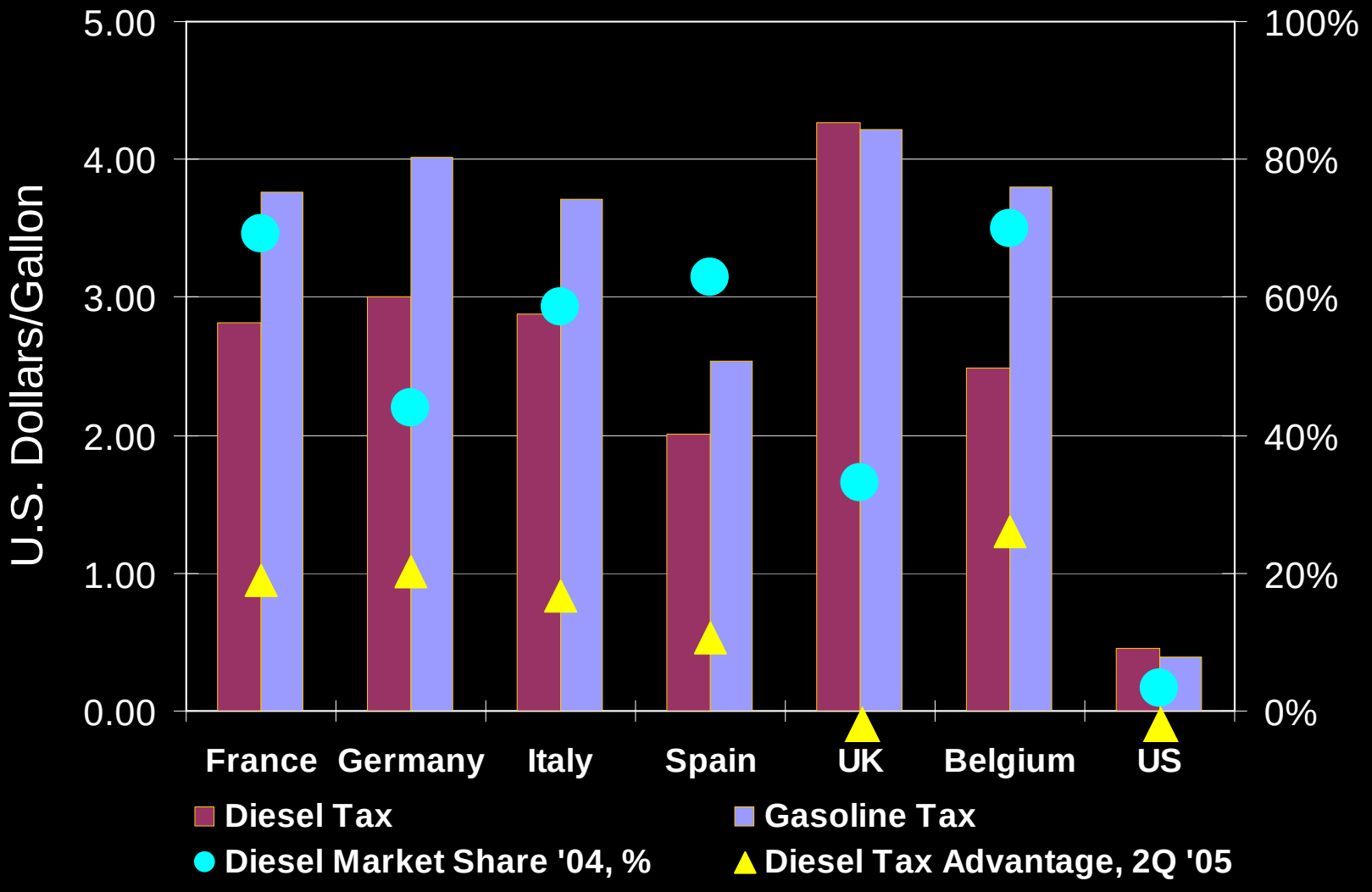
European Fuel Tax Levels & Differentials Strongly Favor Diesel



Source: IEA, Energy Prices & Taxes, 2nd Quarter 2005; Ricardo

Note: US diesel market share includes pickups > 8,500 lbs GVWR

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Light Duty Diesel Is Only One Route To Improved Powertrain Energy Efficiency

- Advanced gasoline technologies including…
  - Cylinder deactivation
  - Variable valve timing & lift
  - Direct injection/lean burn
  - Turbo charging/downsizing
  - Integrated starter generators
  - Low temperature combustion
- Gasoline-electric hybrids
- Advanced transmissions

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Light Duty Diesel Engines Face Formidable Competition In the U.S.

Measure of Merit	Advanced Diesel Engines	Advanced Gasoline Engines	Gasoline Electric Hybrids
Emissions Certifications (Commercial)	LEV/Bin 5 probable	ULEV/Bin 3, SULEV/Bin 2, PZEV	ULEV/Bin 3, SULEV/Bin 2, AT-PZEV
Cost vs. Current Gasoline Engines	+$3,000 or more?	+$500-1,000?	+$2,500-4,000?
City Fuel Economy Improvement	25-45%	10-20%	30-50% or more
Highway Fuel Economy Improvement	20-45%	5-10%?	5-15% w/o cyl deact 15-20% w/ cyl deact
Fuel Availability	20-30% of stations	100% of stations	100% of stations
U.S. Consumer Perception	Uncertain	Neutral	Positive

Fuel For Light Duty Diesel Vehicles: U.S. Market Considerations

- Modern automotive diesel designs are based upon European emissions rules, consumer expectations and fuel.
- U.S. diesel fuel standards focus on the dominant heavy duty market.
- Light duty diesels must meet not only EPA standards but also consumer expectations shaped by gasoline vehicles.
- ULSD will enable light duty emission controls and encourage light duty diesel vehicle introductions. Fuel properties other than sulfur have small emissions effects.
- An additional, special fuel for the U.S. light duty diesel market would have to meet a compelling need, be technically sound, commercially viable & meet a specification established by strong consensus of the automotive and energy industries.

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Selected Diesel Fuel Specifications

	U.S.	Europe
Property	ASTM D 975-05 Grade 2-D S15	EN 590:2004
Sulfur, ppm (max)	15	50; 10 in ’09
Cetane Number, (min)	40	51.0
Cetane Index, (min)	40 (1)	46.0
Aromatics, vol% (max)	35 (1)	Unspecified
PNAs, wt% (max)	Unspecified	11
Lubricity, HFRR, µm	520 max	460 max
T90, C	282 min 338 max	T95 < 360 T85 < 350
Biodiesel vol%	Unspecified	5% FAME max
Density @ 15 C, kg/m^3 (max)	Unspecified	820/845 min/max

(1) One of these specifications must be met.

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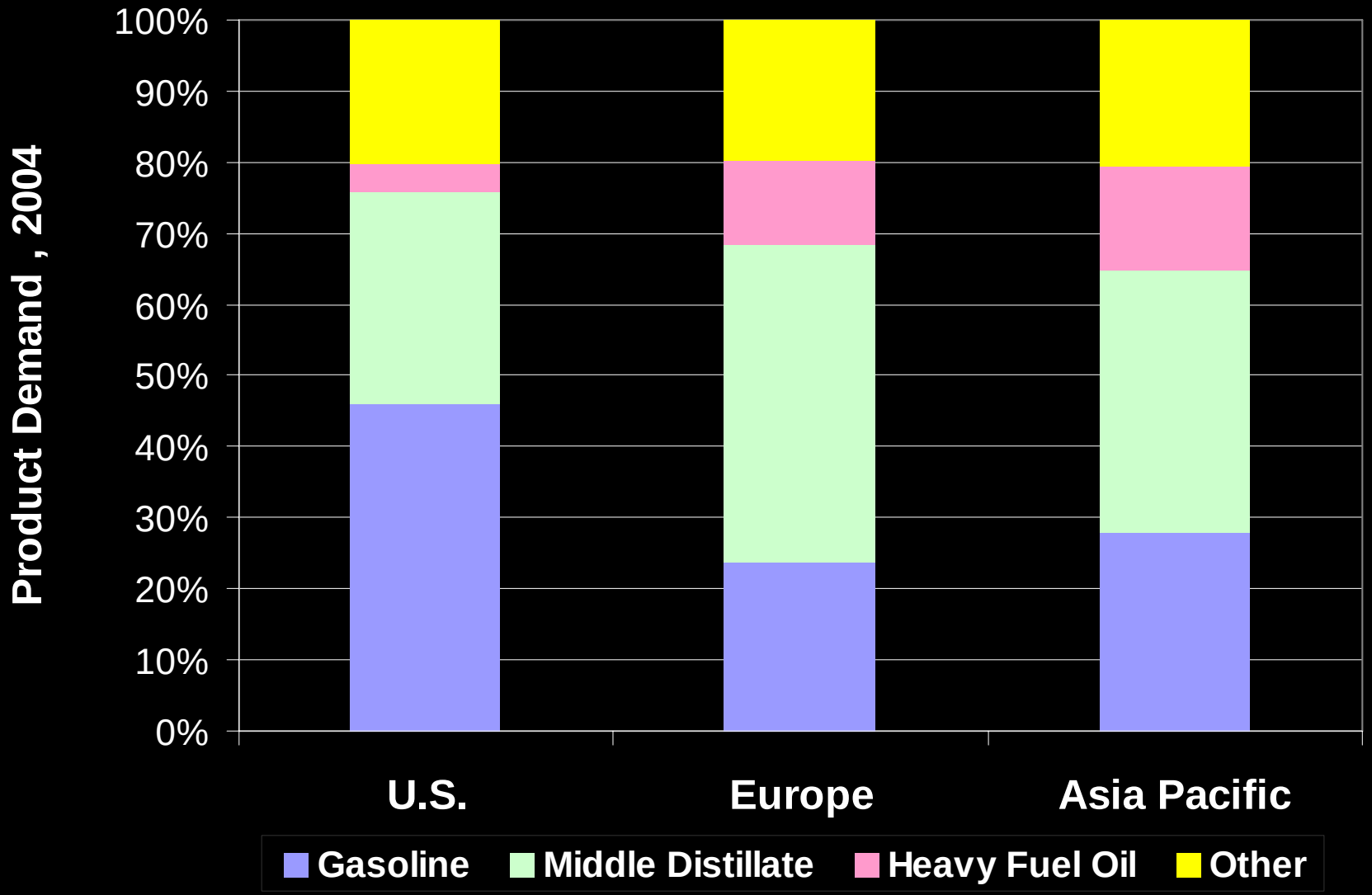
U.S. Refining System Is Built To Meet Gasoline Demand



Source: BP Statistical Review of World Energy June, 2005

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Average Regional U.S. Diesel Quality, Winter 2004

	ASTM D 975-05 Grade 2-D S500	West Coast	Midwest	East Coast
Sulfur, ppm	500 max	<160	390	370
Cetane number	40 min	47.3	43.6	44.5
Lubricity, HFRR, µm	520 max	523	426	390
T90, C	282 min, 338 max	317	319	323
Density @ 15 C, kg/m^3	Unspecified	840.8	860.8	854.0

Source: Infineum Winter Diesel Survey 2004. Fuel samples are from retail locations within regions.

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Fuel For Light Duty Diesel Vehicles: How Could a Special Fuel Be Supplied?

- Volume requirements initially very small.
- Terminal additization of ultra low sulfur diesel fuel could allow efficient distribution.
- Some fuel properties depend solely on refinery configuration & feedstocks, but many can be adjusted with additives.

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Many Diesel Fuel Properties Can Be Modified With Additives

Additive Adjustable

- Cetane number
- Lubricity
- Detergency
- Stability
  - Thermal & storage
- Cold flow
- Corrosivity
- Conductivity

Refinery & Feedstock Dependent

- Cetane index
- Distillation
- Density
- Total aromatics
- Poly aromatics
- Sulfur
- Cloud point

There are technical & economic limits on fuel modification by additization.

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Premium Diesel Fuel Requirements: National Council on Weights and Measures

	NCWM Premium Diesel	ASTM D975-05
Cetane Number (min)	47.0	40
Low Temperature Operability	Meets 10th percentile ASTM D975 charts & maps by ASTM D 2500 or D 4539; applies Oct-Mar only.	Not specified; guidance provided.
Thermal Stability	80% reflectance measurement per ASTM D 6468 (180 minutes @ 150 C)	Not specified; guidelines suggested.
Lubricity, HFRR @ 60 C, microns (max)	520 per ASTM D 6079	520 per ASTM D 6079 (not in force in all states until 1-1-06)

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Summary

- Competition from advanced gasoline vehicles including hybrids, emission control costs & consumer uncertainty will initially constrain U.S. light duty diesel vehicle sales growth but consumer response to recent vehicle introductions is positive.

- Light duty diesel could grow significantly from its current low base in the U.S. market, especially within pickup & SUV segments & among high annual highway mile drivers.

- ULSD will enable light duty emission controls and encourage light duty diesel vehicle introductions. Fuel properties other than sulfur have small emissions effects.

- An additional, special fuel for the U.S. light duty diesel market would have to meet a compelling need, be technically sound, commercially viable and meet a specification established by strong consensus of the automotive & energy industries.

- Terminal-based additization of ultra low sulfur diesel would probably be the only practical way to supply a special light duty diesel fuel.

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