

Biodiesel: The Customers' Perspective

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(Calgary, Alberta)



Trucking Industry Background

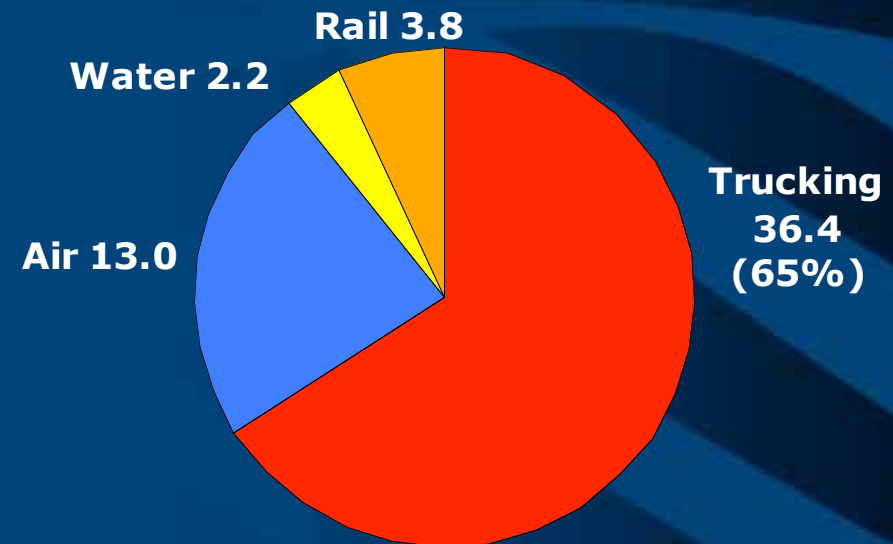
- \$623 Billion Industry
- 10.7 billion tons freight
- 80% Communities
Exclusive Service
- 565,000 Motor Carriers
26 million trucks
- Dominated by Small
Businesses
- Very Competitive

Good stuff.

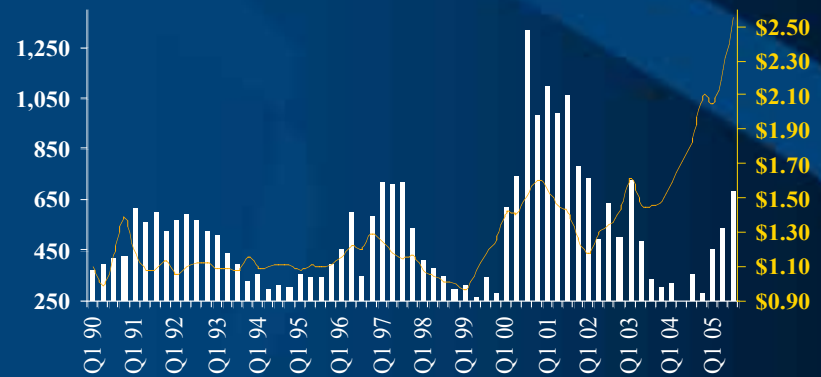


Diesel Fuel is Essential to Trucking

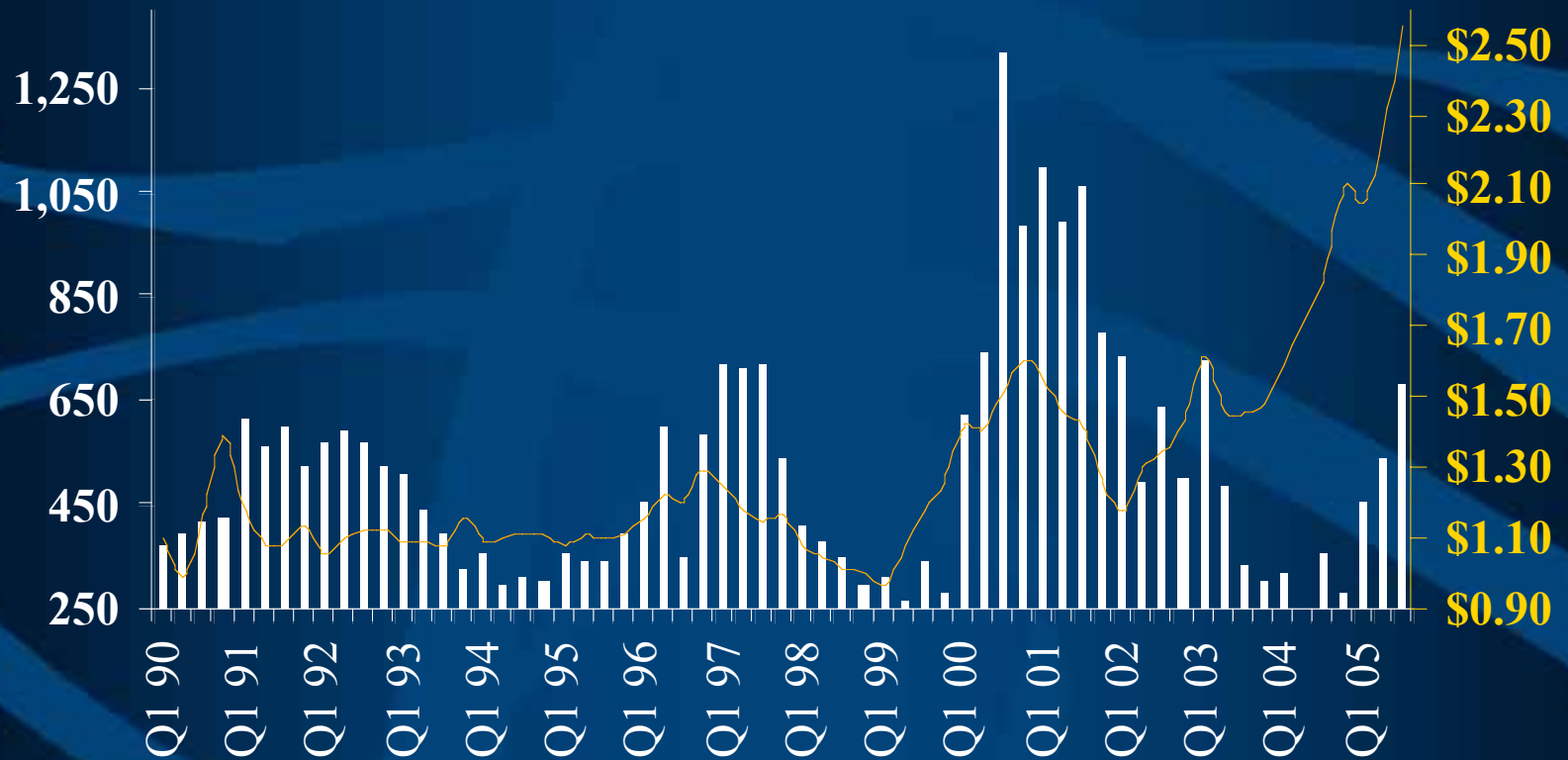
- U.S. trucking industry consumes 36.4 billion gallons of diesel
- Fuel is typically the 2nd largest expense (20-25%)



Trucking Diesel Expenses



Trucking Sensitivity to Diesel Prices







ATA's Biodiesel Policy

“The trucking industry supports a single national diesel fuel standard. The use of biodiesel, in blends of up to **5%** (i.e., B5), is an appropriate means to increase the supply of diesel fuel, provided that the biodiesel blend meets the **ASTM D975** standard for on-road diesel fuel. . . .”

“The trucking industry does not support state or municipal government implemented **mandates** to use alternative fuels.”

Why Biodiesel?

- Political pressure from agricultural interests
- Perception of energy security (domestic supply)
- High price of petroleum
- Environmental concerns
- U.S. Energy Bill (RFS) [4B – 7.5B]
 - mostly satisfied by ethanol
 - Refiner discretion to blend biodiesel
 - Extension of biodiesel subsidies
- State Mandates

Why BioDiesel?

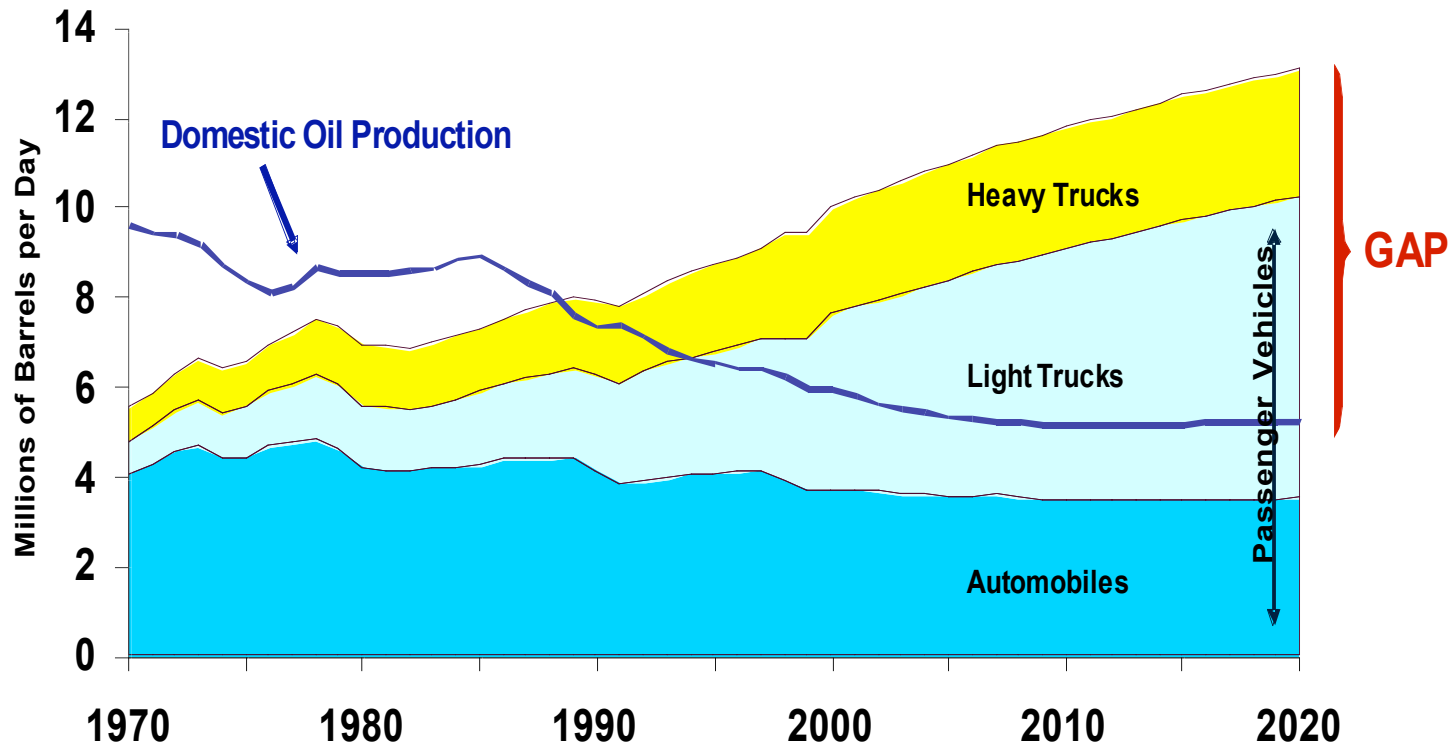
US Policy Driver: Environmental

- Environmental benefits
 - significant PM and HC reductions
 - slight NOx increase



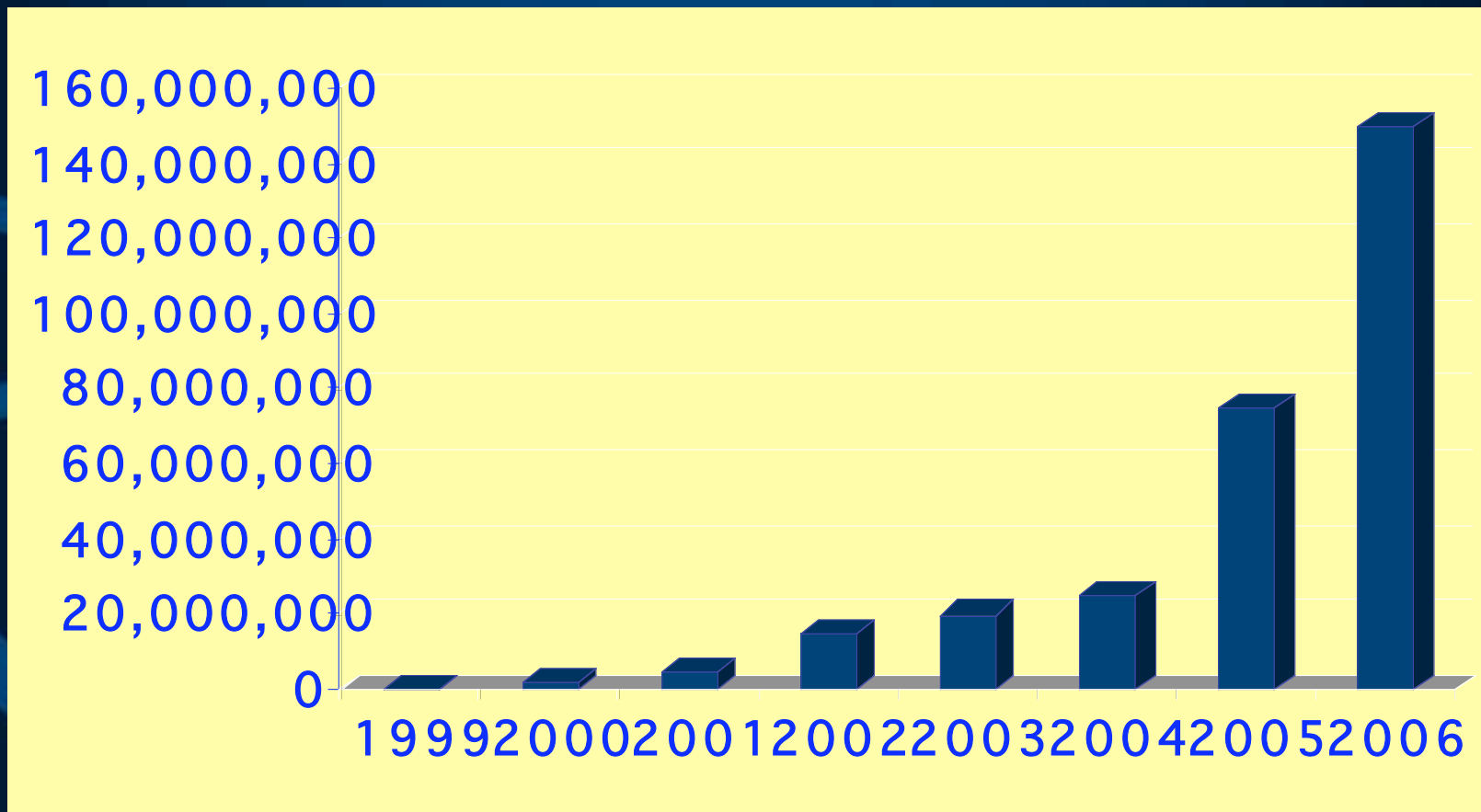
Emission Type	B100	B20	B2
PM	-47%	-20%	?
NOx	+10%	+2%	?
CO	-48%	-12%	?
HC	-67%	-20%	?

US Policy Driver: Energy Insecurity



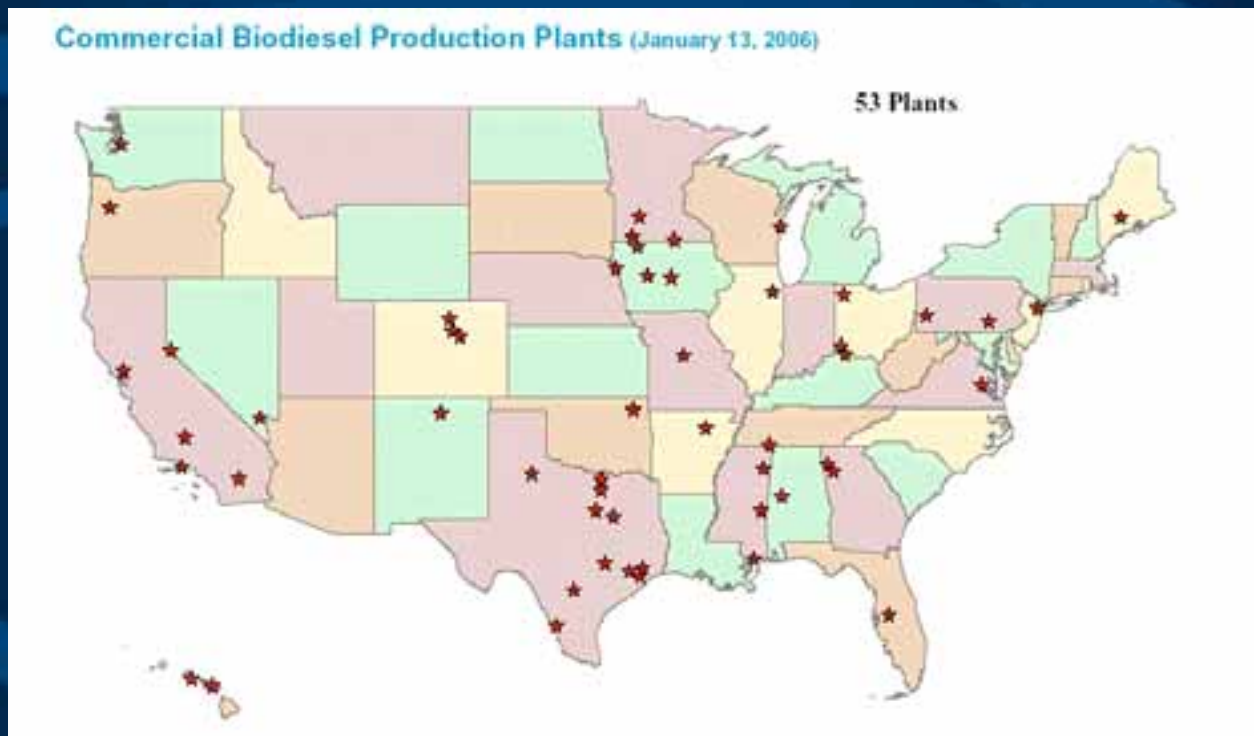
Source: Transportation Energy Data Book: Edition 19, DOE/ORNL -6958, September 1999, and EIA Annual Energy Outlook 2000, DOE/EIA -0383(2000), December 1999

US Biodiesel Growth



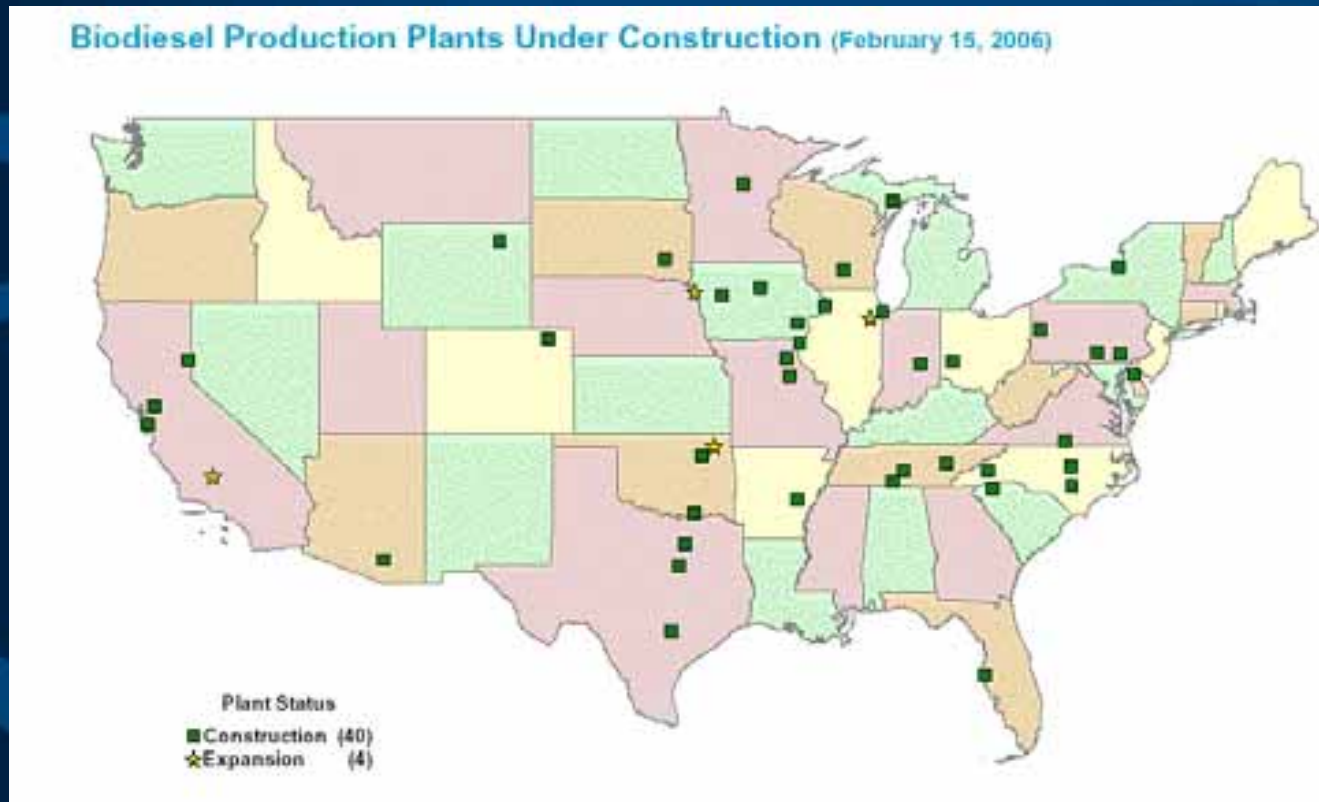
Biodiesel Supply

- 53 Plants Operating (75M gallons 2005)
- 65 Plants Operating (150M gallons 2006)

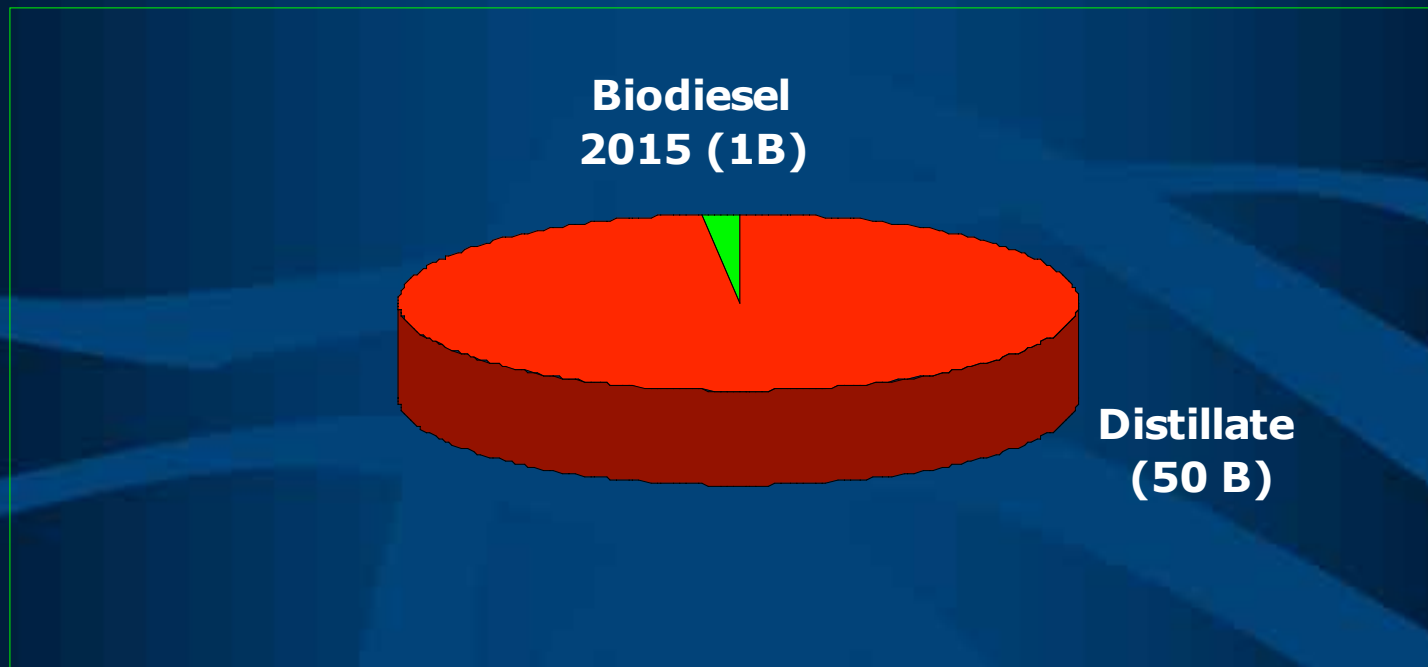


Biodiesel Future Supply

- 50 Plants Under Construction
- 36 Plants Planned



The Fallacy of Energy Security



2% Total U.S. Distillate Market

2.7% Trucking Industry's Diesel Consumption

Advantages of Biodiesel (Trucking Perspective)

- Increased Lubricity
 - ULSD additive
- Increased Supply of Diesel Fuel
- Environmental

Biodiesel Operational Concerns

- Energy value
 - 5%-7% lower BTU value
- Cold weather performance
 - No. 2 diesel gels at 16° F
 - B100 (soy) gels at 32° F
 - B20 will increase cold flow properties 3°F - 5°F
 - <B5 should perform as No. 2

Biodiesel Operational Concerns

- Solvent properties
- Maintenance
- Warranties
- Storage and Blending Concerns

Biodiesel Costs & Incentives

- Production
- Distribution
- Federal Tax Credit extended until 2008
- Production Incentives
- State Sales Tax Exemptions

Biodiesel Cost Considerations

- Production
- Distribution
- Subsidies

Location	Diesel Fuel	Biodiesel (B20)	Price Differential
New England	\$2.64	\$2.80	16 cents
Lower Atlantic	\$2.46	\$2.50	4 cents
Midwest	\$2.42	\$2.51	9 cents
Gulf Coast	\$2.46	\$2.44	2 cents
Rocky Mountains	\$2.46	\$2.65	19 cents
West Coast	\$2.60	\$2.82	22 cents
National Average	\$2.47	\$2.64	17 cents

Biodiesel Quality

- ASTM D-6751
- NBB BQ-9000
- Complete Reaction
- Removal of Glycerin
- Removal of Catalyst
- Removal of Alcohol
- Absence of Free Fatty Acids

Biodiesel Quality Case Study



- September 29, 2005, B2 mandate takes effect
- October 28, 2005 10-day suspension (flashpoint)
- December 23, 2005 21-day variance following numerous complaints of clogged fuel filters
 - Improper winterization
 - High percentage blends
 - Off-spec fuel (glycerin content)
 - Question as to whether the spec is sufficient
- January 13, 2006 30-day extension to the biodiesel variance (2/10)

The Problems with Biodiesel Mandates

- Price Differentials
- Uneven Playing Field
- Supply Disruptions
 - No fungibility
 - Price Spikes
- Additional VMTs
 - Undermines Environmental Benefits
 - Safety Concerns

Acceptable Biodiesel Promotion

- Financial Incentives
- Ensure Biodiesel Quality
 - Test every batch
 - Neat Biodiesel (ASTM D6751)
 - Blended Biodiesel (ASTM D975)
 - BQ 9000 Certification Requirement
- State must establish an adequate testing & enforcement budget
 - Random quality audits (ASTM 6751 compliance)
 - Complaint investigation
- State should take aggressive action against the producers and distributors of off-spec biodiesel

Biodiesel Promotion

- Limit biodiesel to B5 (Labeling)
 - Warranty issues
 - Operational concerns
- In-state production requirement (sufficient quantity of ASTM D-6751)
- Require biodiesel for municipal vehicles
- Require biodiesel for off-road vehicles
- Ensure emergency waiver flexibility
 - Restore fungibility

Biodiesel & ULSD

- Lubricity Improver
- Stability Questions
- Formation of Insolubles
- Need: Oxidation Standard
- Need: Additional Experience



Good stuff.



Good stuff.

