

# Biodiesel – Learning from the Lessons of E85

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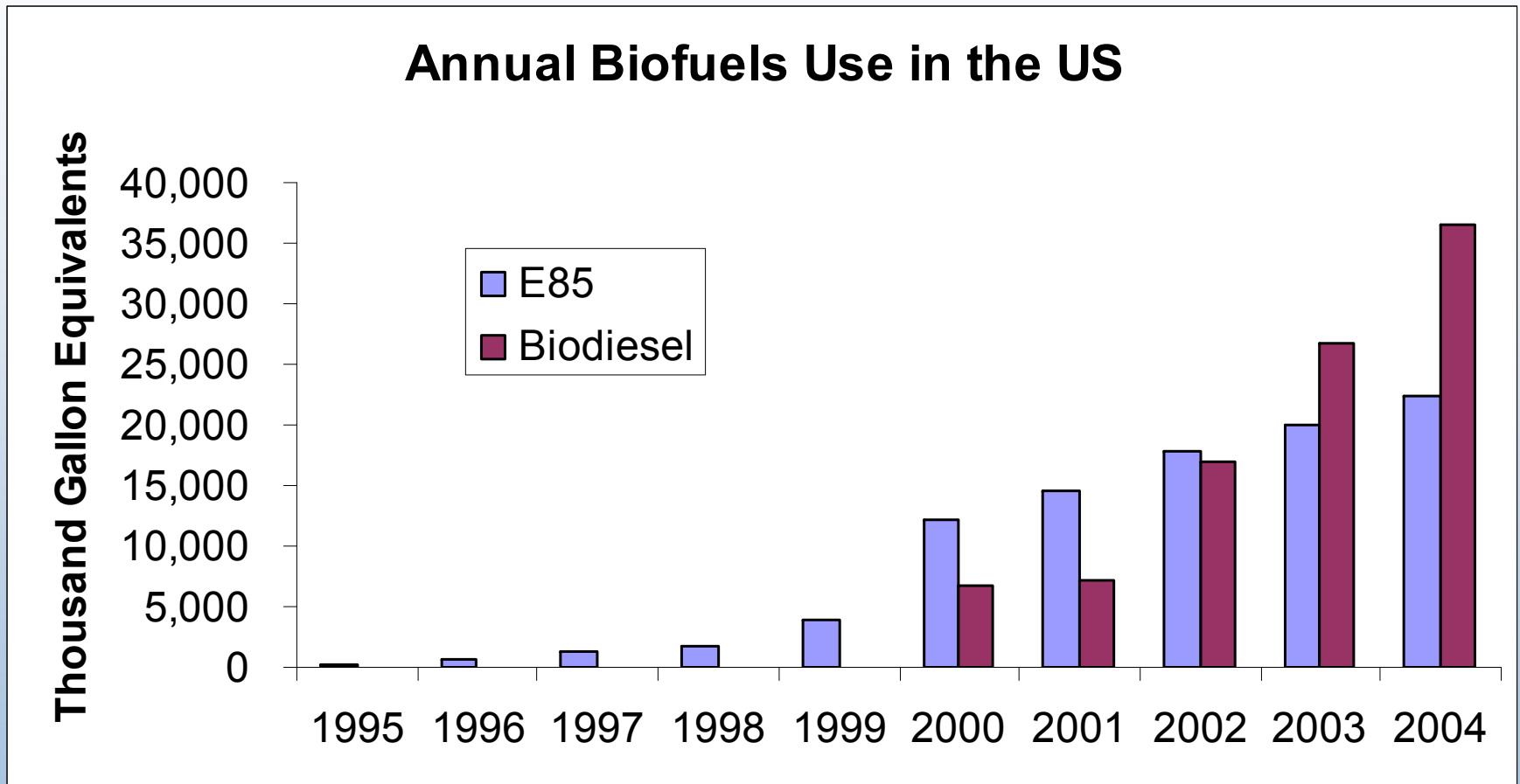
NREL/PR-540-41443

Presented at the 2007 Alternative Fuels & Vehicles National Conference + Expo held on April 1-4, in Anaheim, California .

# NREL Background

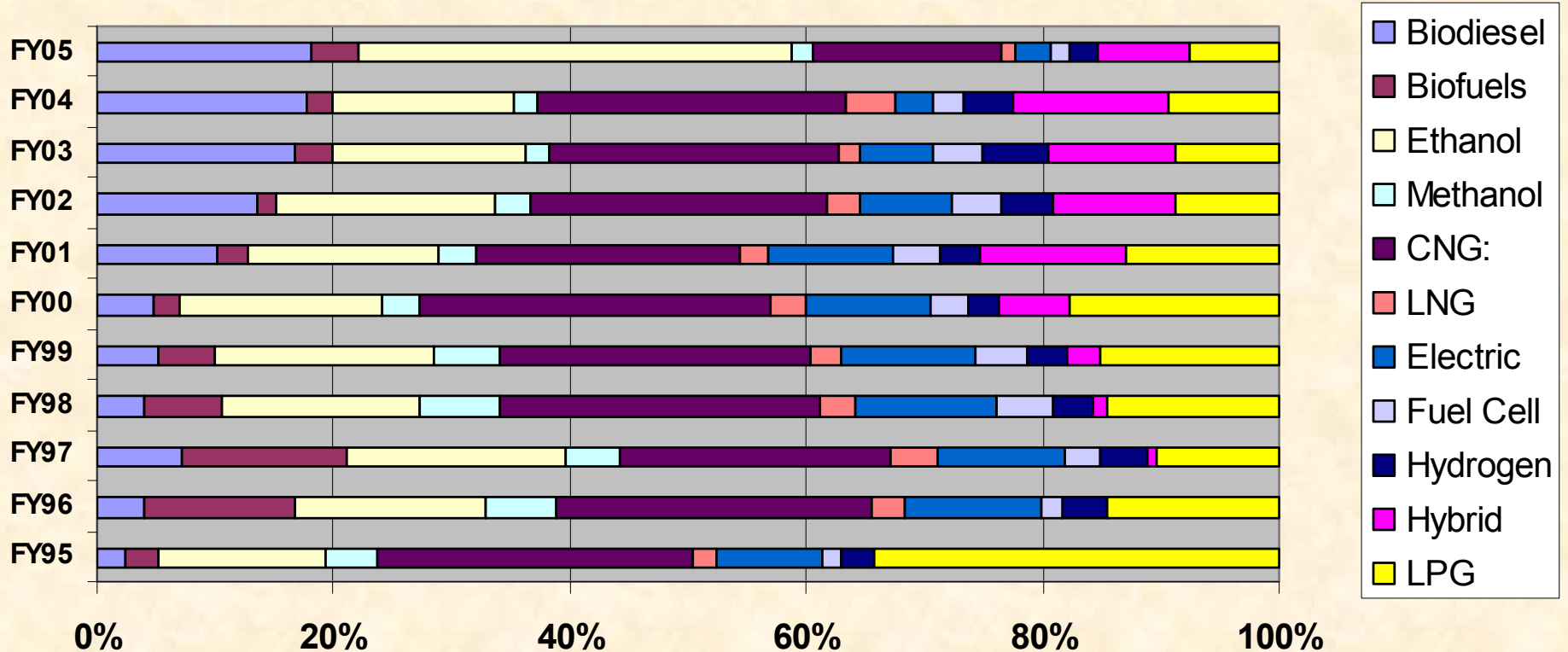
- Supports DOE on Clean Cities activities
  - Hotline
  - Technical assistance
  - Web sites (station locator)
  - Coordinator support
  - Document database
- Biodiesel laboratory research and testing
- Data analysis and lessons learned
- Close tie to Biomass Program

# Ethanol and Biodiesel Use



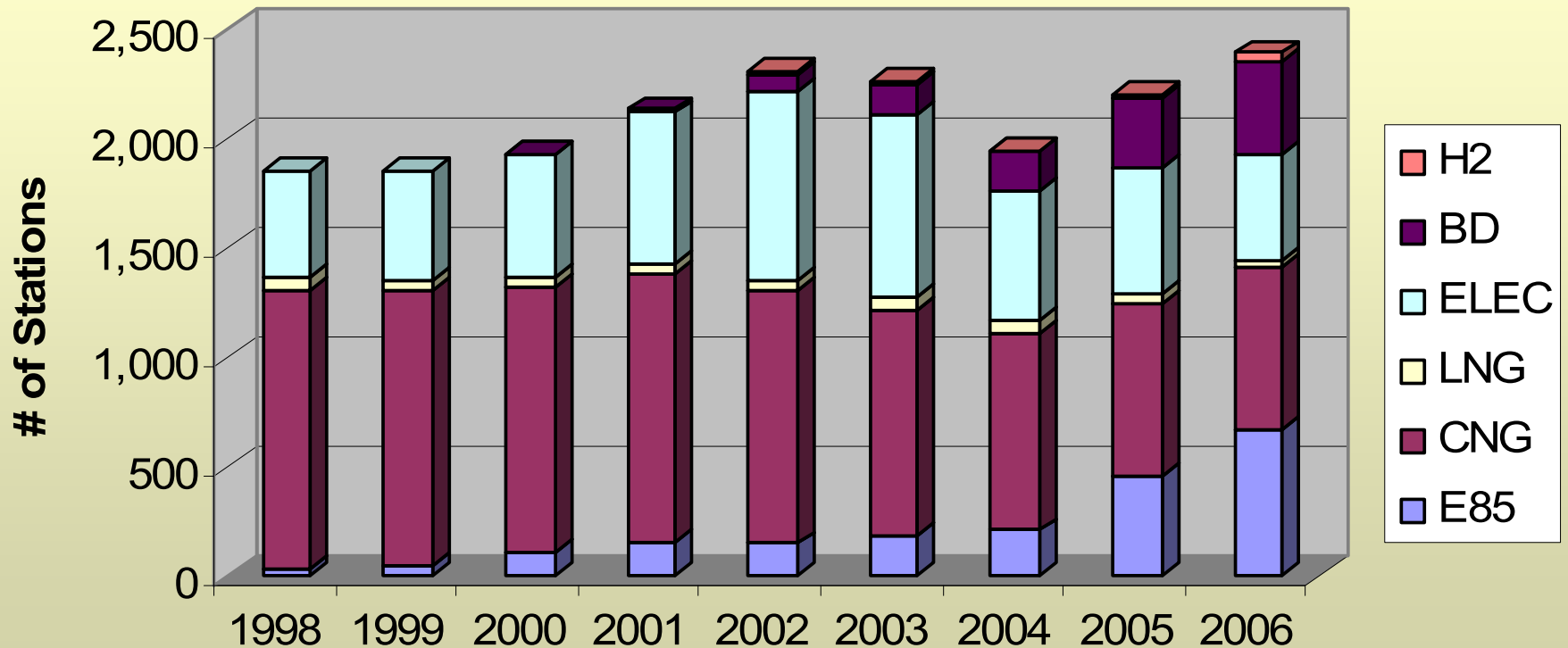
# Trends in Alternative Fuels

Hotline Fuel Type Requests (FY95-05)



# Refueling Station Growth

## AFV Refueling Sites by Fuel Type 1998-2006



Source: NREL CC/AFDC

# Public/Private Biodiesel Stations

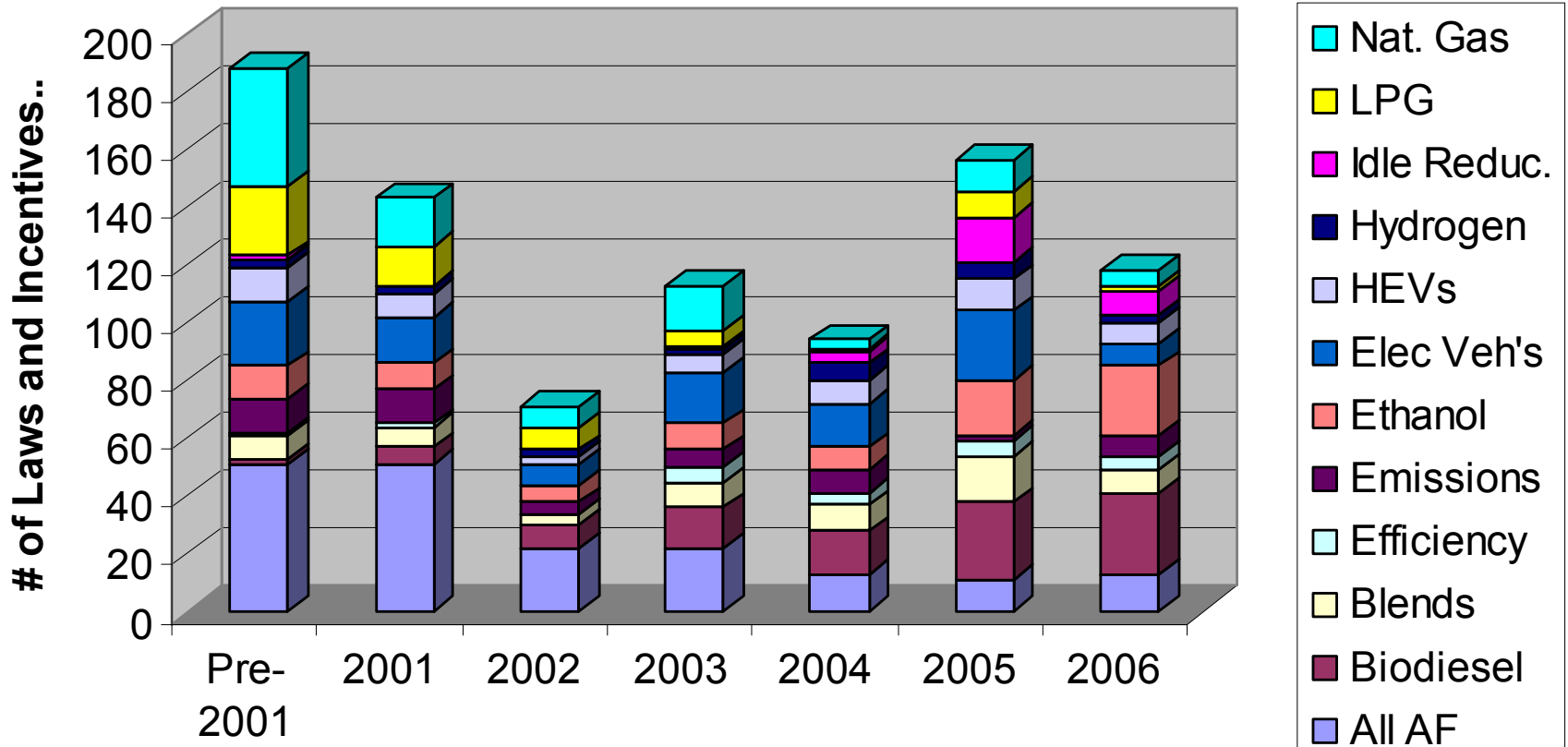


Total stations: 655

Source: AFDC, as of March 2007

# Trends in Laws and Incentives

## L&I by Fuel/Technology by Year



# Top Lessons Learned

- Fleets are a good start
- Demonstration projects identify issues
- Transitioning from fleets is challenging
- Coordination is critical
- Think global and act local





# Fleets are a Good Start

- Fleets make refueling stations viable
- Decision makers are educated about vehicles and fuels
- Lend themselves to demonstration and evaluation
- More limited needs regarding vehicle make and model



# Idea!

- Fleets can work with local station owners on their routes to get biodiesel pumps installed
- Make it a win-win for both
  - Fleets will be green and clean
  - Station owners get fleet business plus business from general consumers
- Benefit: More biodiesel stations!



# Demonstration Projects

## Identify Issues

- Prove technologies
  - Keep technology ahead of deployment
  - Understand maintenance and implementation costs
  - Develop technology messages
- Support education and outreach

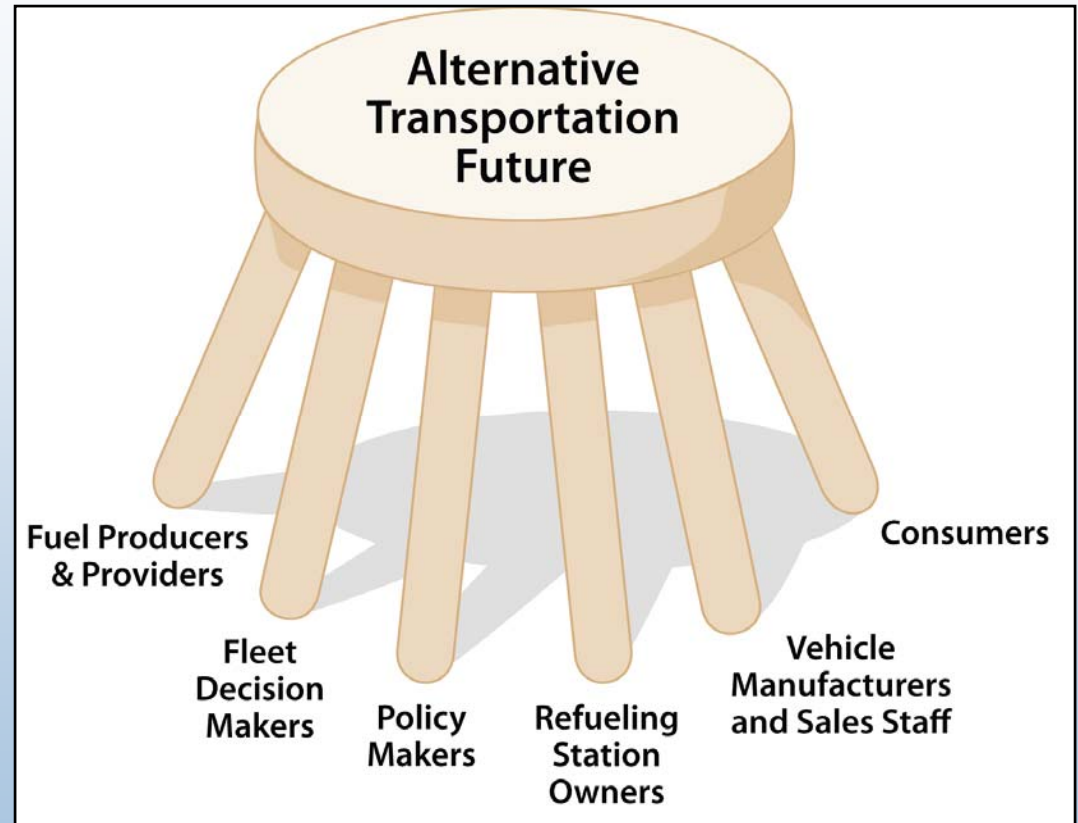


# Transitioning from Fleets is Challenging

- *Knowledge* base and *motivations* of consumers vary widely
- Vehicle model/make becomes critical issue
- Defining convenience is critical
- Cost is *everything* with a *semi-fungible* fuel

# Coordination is Critical

- Spatial and temporal issues
- Stakeholder motivations vary



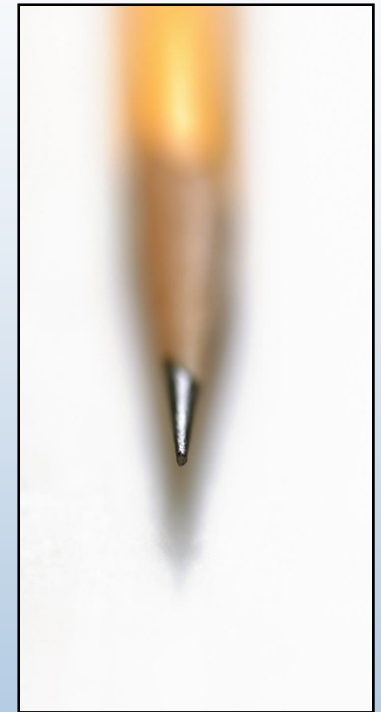
# Think Global and Act Local

- Many local issues make targeted deployment critical
  - Feedstock
  - Distribution/transportation
  - Performance and specifications
  - Policies
  - Codes and standards



# Implementation Tips

- Anticipate through planning and analysis
- Broad education/outreach in anticipation of fuel deployment
- Local champions ease transition and facilitate coordination
- Thoroughly demonstrate technologies to anticipate issues
- Partner when possible



# References and Resources

- Alternative Fuel Data Center
  - [www.eere.energy.gov/afdc/](http://www.eere.energy.gov/afdc/)
- Clean Cities
  - [www.eere.energy.gov/cleancities/](http://www.eere.energy.gov/cleancities/)
- Lessons Learned Report
  - *Transitioning to a Hydrogen Future: Learning from the Alternative Fuels Experience*; Margo Melendez, February 2006.