

# *Alternative Fuel Vehicle Program*



**Logistics Management Division  
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# NASA Fleet Overview

- NASA's fleet is small compared to other Federal Agencies and the DoD
  - Total Vehicles 4,209
  - Agency Owned 1,095
  - GSA Leased 3,014
  - FY 2004 Fleet Cost \$17,028,416 “includes the cost of operations”

E-85 (556)

CNG (30)

CNG Bi-Fuel (259)

LPG Bi-Fuel (38)

- Over 65% of NASA's fleet are operated by contractors
- Vehicles are disbursed across the United States and several foreign countries

***Vehicle Fleets Represent a Large Part of Our Budgets***

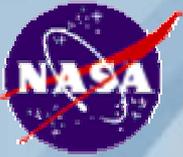




# “One NASA” Alternative Fuel Vehicle Strategy

- Completed December 2002
- Places emphases on the entire vehicle fleet
- Specific elements include:
  - Use of biodiesel
  - Use of Alternative Fuels
  - Acquisition of light duty vehicles with increased MPG
  - Acquisition of AFV's
  - Fleet reductions





# “One NASA”

## Alternative Fuel Vehicle Strategy

- Improved Accountability
  - Implemented Vehicle Review Boards to be conducted annually, or at the time of any new vehicle request (Improved Fleet Management)
  - Contractors who operate government owned / government leased vehicles must now comply with EPAct and E.O. 13149
  - Contractors are now required to report government owned / government leased vehicles into the Federal Automotive Statistical Tool
- Improved Fleet Management
  - Contracted with Runzheimer International Ltd, Rochester, Wisconsin “**Mercury Associates**” to conduct a Vehicle Fleet Management Operations Requirements Analysis





# AFV Results

- Increased vehicle utilization
- Fleet reductions during FY 2004
- Enhanced focus on EPO Act and E.O.

## EPO Act 1992 and E.O. 13149

Fiscal Year	2004	2003	2002
• AFV acquisitions	198%	93.0%	49.0%
• Petroleum reduction	15.3%	14.0%	10.9%
• Alternative fuel consumption	27.5%	9.4%	15.3%
• Average MPG increase	2.6	3.1	1





# GGE AFV Fuel

EPA Act 1992 and E.O. 13149

Fiscal Year	2004	2003	2002
• CNG	24,461	17,314	16,890
• LPG	8,557	2,576	131
• E-85	32,707	860	14
• B100*	26,215	29,618	2,492

\*450 gallons of B100 is equivalent to 2,250 gallons of B-20





# Challenges Associated With E85

- Components on tank conversions must be compatible with ethanol
  - Cost for conversion can be anywhere from \$5K and up
- There is no E85 product code
  - If E85 is procured on the economy your billing statement will not cite E85
- Install a minimum of a 10,000 gallon tank to avoid costly delivery charges
- Average cost is 50 cents a gallon higher than 87 octane unleaded





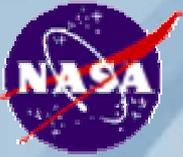
# Challenges Associated With E85 Continued

- E85 tax credit is not being passed on to the consumer
- E85 has approximately 75% GGE energy equivalency when compared to GGE to gasoline
- Only a hand full of E85 providers in Texas

## Education

- Need to devise method to ensure operators use E85
  - Glass magnets, key chains, fuel door decals
- Let folks know that E85 cannot be used in every vehicle
  - E85 fuel nozzle is the same as unleaded





# Good News About E85

- Our experience is, you can't go wrong
- E85 is a renewable resource
- ASTM Ed75Ed85
- 15% gasoline, 85% Ethanol
- Better for the environment
- Cost for infrastructure significantly less than other alternative fuels
- Incremental cost for E85 flex fuel vehicles is substantially less than that of CNG, LPG, Hybrid, etc.
- Unlike CNG, LPG, and Hybrid manufacturers are producing a wide range of Flex Fuel Vehicles

**The Bottom Line, Less Dependency on Foreign Petroleum**



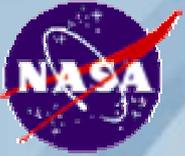


# Biodiesel B20

- Our experience is, you can't go wrong
- Must ensure tank is clean
- Acquire fuel from known distributor, that meets Biodiesel Standard (ASTM D 6751)
- **Check manufacturer warranties**
- Do not use in back up generators etc. due to shelf life
- 1 AFV credit for every 2,250 gallons of B20

A small, circular icon of a globe showing the Earth, located in the bottom left corner of the slide.

**The Bottom Line, Less Dependency on Foreign Petroleum**



# *QUESTIONS*

