

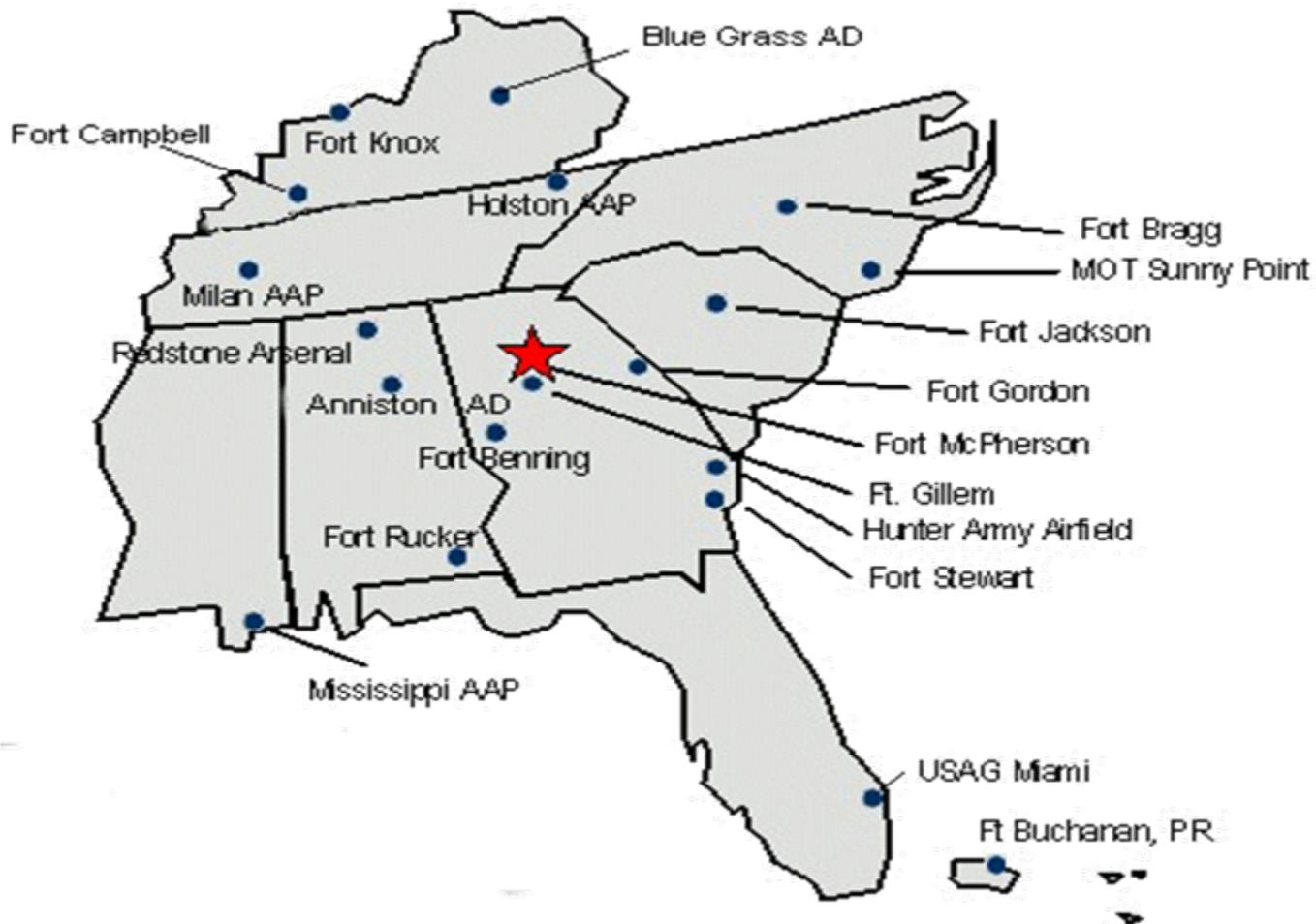


Alternative Fuels Strategy Inside and Outside South East Region Army Installations

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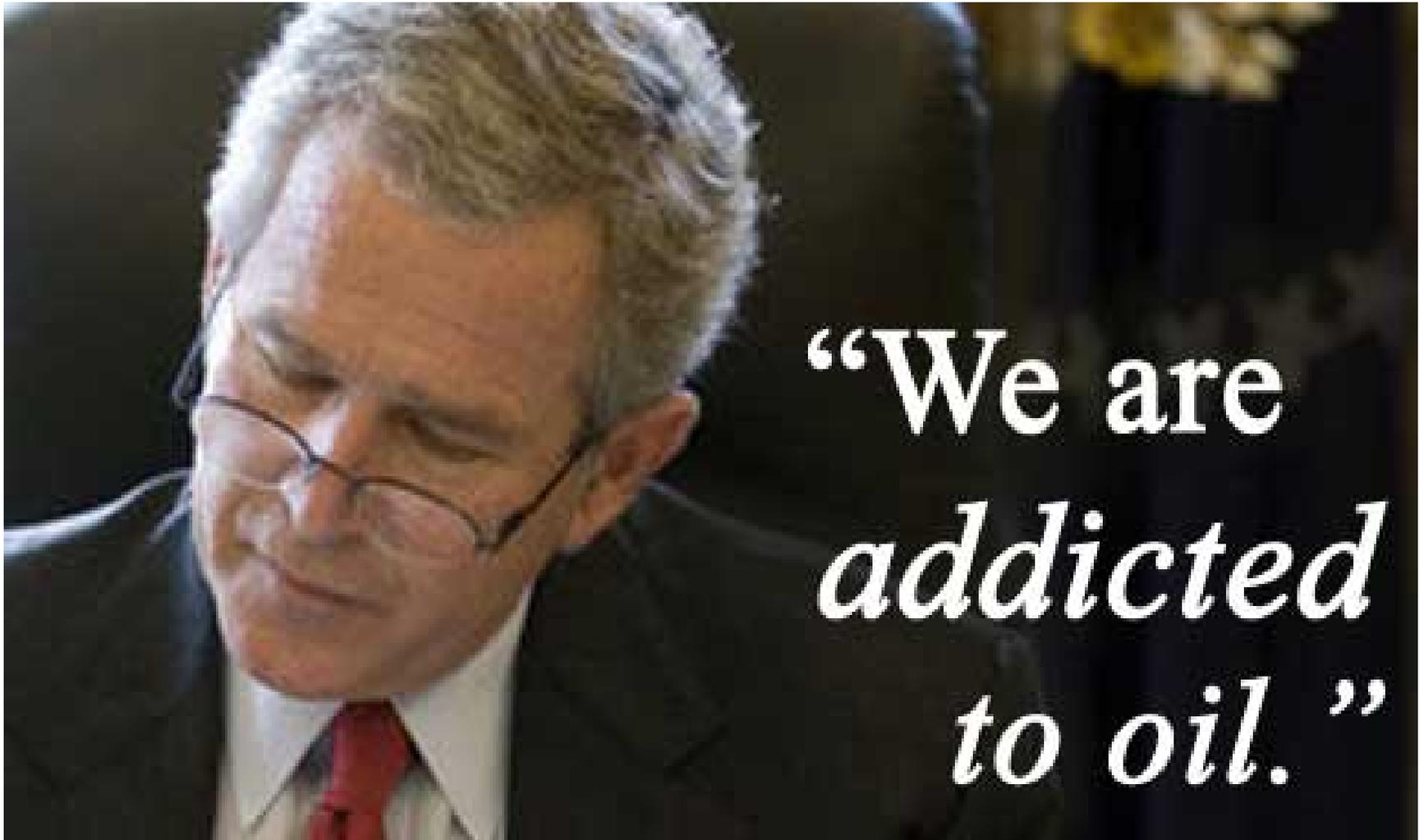


SE Region Army Installations





Justification/Motivation





Energy Policy Acts



- **EPAct 1992**
 - 75% of Vehicles Purchased Must be AFVs
- **Energy Policy Act 2005**
 - AFVs Must Use Alternative Fuels
 - Waivers Only if Fuel Unavailable or Too Costly
- **EO 13423**
 - Reduce Petroleum Use 2% Annually
 - Increase Alternative Fuel Use 10% Annually
- **Energy Independence and Security Act of 2007**
 - Fleet Fueling Centers Must Have Renewable Pump by 2010





MAJOR DRIVERS



- **National Security**
- **Fleet Conversion to FFV**
- **Biofuel Usage**
- **Clean Air Act**



INITIAL STRATEGY





SE Region Army Installations



Green Fuel

- Fort Benning
- Fort Campbell
- Fort Jackson
- USAG Miami
- Fort Gillem





Green Fueling Center Planned



- **Fort Bragg - Planning/Implementation**
- **Fort Gordon – Proposed**
- **Fort Stewart - Proposed**
- **Redstone Arsenal – Proposed**
- **Fort Rucker – Proposed**
- **Fort Knox - Proposed**



Why B20 and E85 at Fort Bragg?



- **Comply with DOD directives for fleet conversion to FFV**
- **Comply with DOD directives and mandates for fuel usage**
- **Comply with regional EPA approved Early Action Compact/(Local Action Plan) for non-attainment of ground level ozone**
- **Reduce our dependence on foreign sourced fuel (currently 70%+ nationally)**
- **Will House 1/7 of Standing Army**





Ft Bragg Vision



- **Serve all FFV Motoring Public and FFV GOVs on Post**
- **Establish Biofuels Infrastructure**
- **Grand Opening Planned With State and Military Leaders**



Fort Bragg Strategy



- **Fort Bragg's Sustainable Transportation Team began a one and a half year effort to establish a biofuel infrastructure at an existing AAFES Shopette with refueling capability.**
- **Identify Underutilized Fuel Tank/Dispenser at Existing Shopette**
 - **COSCOM Shopette (now Fort Bragg East Shopette) was selling only 3,000 gallons of premium per month with no mid-grade pumps**
- **Fort Bragg AAFES Agrees to Sell E85 to Any FFV**
- **Change DOL Vehicle Policy to Reflect Biofuel Requirement in FFV GOVs**



Fort Bragg Strategy



- **DPW/ENV Agreed to Pay for Conversion of Existing Pump and Tank**
 - Tank and tank to dispenser fuel line was found to be not compatible with E85
 - \$40,000 earmark was not enough to pay for required tank replacement and pump conversion
 - UGST moratorium on Fort Bragg stopped preliminary plan
Move to purchase of AGST



Business Case



- **AAFES E85 RFP Review**
 - **Potential E85 wholesalers**
 - **Supply the AGST and dispenser compatible with their point of sale registers and computers.**
 - **Comply with all state and local fire safety, and environmental requirements applicable to re-fueling stations**
 - **Long term (3-5 years) fuel contract**
 - **5000 gallon per month estimated demand**



AFFES DERTEMINATION



- **September 2007**
 - **AAFES Fuels determined that it would not be in the best interest of their organization to enter into the biofuels business at Fort Bragg**



Road to Success



- **Army Petroleum Center**
 - **Target APC for an alternative fuels evaluation.**
 - **Began discussion and exchange of preliminary data**
- **Preliminary data determined that an on site visit was warranted**
 - **Visual evaluation of existing bulk fuel sites**
 - **Discussion concerning “scattered sites”**
- **ACP conclusion that a green refueling station is warranted**
 - **Decision based on initial data**
 - **Economics of fuel demand vs. station construction costs**
 - **Business case is complete, awaiting real estate clearances**
 - **Service Available to GOV FFV Only**



Ft Bragg's Strategic Partnerships



- Ft Bragg participates in the strategic planning for the region.
- In 2007, the North Carolina General Assembly had the foresight and vision to create the Biofuels Center to implement this plan.
- Biofuels Center of North Carolina is to develop a statewide biofuels industry to reduce the state's dependence on imported liquid fuels.
- The goal of North Carolina's Strategic Plan for Biofuels Leadership is that by 2017, 10% of liquid fuels sold in North Carolina will come from biofuels locally grown and produced.



Outside the Gate



- **If you Build it, They Will Come...** Field of Dreams
 - **Alterra BioEnergy - Macon, GA**
- **See a Need, Fill a Need...** Robots
 - **Midway U-Gas Inc – Miami, FL**
 - **Sol Atlantic Biodiesel – Miami, FL**
 - **Georgia Power – Augusta, GA**
 - **Clean Corridor Station – Athens, AL**



Regional Incentive for Biofuels





Ft Benning Regional Initiative



- **Air Issues for the Greater Columbus Area including Fort Benning**
- **2006 US EPA Region IV/GA EPD presented the greater Columbus area with the option of showing efforts to reduce PM 2.5 thus decreasing the threat of non attainment.**
- **Fort Benning initiated the following actions:**



Ft Benning's Initiatives in Place



- ****Diesel Emission Reduction:**
- **1.) Ethanol – E-85 is mandated and enforced to be used in all GOV fleet vehicles that can use E-85.**
- **2.) Ultra Low Sulfur Diesel- Fort Benning and the major Installation contractor is required to use ULSD in all emission units (generators, boilers, etc...)**
- **3.) 20% Bio Diesel – Flint Energies installing a 20% Bio Diesel tank and will sell biodiesel to their subcontractors at wholesale price.**
- **4.) Diesel Retrofits – DEDDSS School Buses have been retrofitted with an oxidation catalyst.**
- ****Prescribed Fire Activities:**
- **1.) Statewide Basic Smoke Management Plan: Fort Benning EMD, OSJA, and Land Management worked with GA EPD and US EPA on writing the Smoke Management Plan.**
- ****Open Burning:**
- **1.) Open burning is not authorized on the Installation unless it's exempt under Georgia Rules for Air Quality Control.**
- **2.) Use of Trench Burners: Trench burners are encouraged and have been used on the Installation.**
- ****Public Out Reach:**
- **1.) Open burning bans discussed/taught during EQCC, Senior Environmental Course, and Hazardous Waste Course.**
- ****Traffic Demand**
- **1.) Carpooling/Rideshare: Joined forces with the Clean Air Campaign and initiated carpooling/vanpooling to the Installation.**



US EPA Region IV Offers Aid



- **US EPA Region IV offered grants for up to \$750,000 for a two year period to help reduce diesel emissions.**
- **NPO, MPO, and other publicly funded organizations are eligible for the grant.**
- **Fort Benning made the decision to submit a grant application in partnership with Lower Chattahoochee Regional Development Center.**



Fort Benning's Regional Objectives



- **Bring biodiesel fuel (B20) to the Installation to fuel the Infantry School Bus Fleet. Currently 113 buses, with an addition of 30-50 more in the next two years.**
- **Help the surrounding areas initiate grant applications and identify funding sources.**



Biodiesel is Easy to Use



- **The biggest benefit to using biodiesel is that it is easy. In blends of B20 or less, it is literally a “drop in” technology.**
- **No new equipment and no equipment modifications are necessary. B20 can be stored in diesel fuel tanks and pumped with diesel equipment.**



Biodiesel Benefits



- **Meets Clean Air Act Requirements**
- **Carbon Dioxide Emissions Reduced 30-40%**
- **Particulates Reduced 20-40%**
- **Hydrocarbon Emissions Reduced 20-35%**
- **Sulfur Emissions Low**
- **Maintains Cleaner Running Engine**



Drawbacks of Biodiesel Use



- **Biodiesel contains 8% less energy per gallon than typical No. 2 diesel in the United States; 12.5% less energy per pound.**
- **Most users report little difference between B20 and No. 2 diesel fuel.**
- **Impact of B20 Use on NOx Unknown**
- **Requires Filter Changes Upon Initial Use**



Ft Benning Regional Proposal



SUNMIT BIODIESEL COST DIFFERENTIAL GRANT

Fort Benning: Switch Infantry School buses from diesel to B20.

Chattahoochee County: Switch school buses from diesel to B20.

Marion County: Switch school buses from diesel to B20.

Muscogee County: Switch METRA and MCSD buses from diesel to B20 in the next two years.

Phenix City: Working with ADEM on a state grant for biodiesel projects.



Major Issues



- **Educate Regional Stakeholders and Installation Chain of Command**
- **Identify Infrastructure Needs**
- **Budget Considerations**
- **Timing: Very little time to write grant. Ft. Benning to complete template NLT 4 June; send template to regional partners.**
- **Each grant application needs a Letter of Endorsement from “someone important”.**
- **Awardees must have sufficient funds to cover the difference in fuel costs; reimbursement should be within two weeks.**
- **Bus fleet managers should schedule a planned maintenance for a time period that coincides with the use of two tanks of fuel. This type of planning will save money.**



Regional Effort

Crystal Ball – Best of All Scenarios



- **Use Regional Development Centers to help develop projects**
- **Find and address all challenges (ie infrastructure, budgets, land demands, must work closely with City/County managers)**
- **Find applicable grants**
- **Write/submit grants proposals**
- **Administer funds**



IMCOM-SE LEADING THE WAY





IMCOM-SE LEADING THE WAY



ANY QUESTIONS?





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