

# DEFENSE LOGISTICS AGENCY

## DESC – DOD Energy Update to NDIA

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Warfighter  
Support Enhancement



Stewardship  
Excellence



Workforce  
Development



# DESC Enterprise

## Military Fuel FY09

Inventory	59.6M barrels*
Storage locations	625
Transactions	23.8M
Barrels sold	129.0M
Fuel Cards	\$829.0M
Aerospace Energy Sales	\$79.6M

## Petroleum Sales: All Customers

FY05 Net Sales	132.5M barrels - \$ 8.5B
FY06 Net Sales	133.9M barrels - \$12.7B
FY07 Net Sales	132.4M barrels - \$12.6B
FY08 Net Sales	132.5M barrels - \$17.5B
FY09 Net Sales	129.0M barrels - \$12.2B
FY10 Estimate	125.5M barrels - \$14.2B

## Foreign Military Sales

Net Sales	3.0M barrels - \$202.2M
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## Expanding Energy Solutions

Natural Gas Business	\$292M
Electricity Business	\$863M
Coal Contract Business	\$68.9M
Renewables	\$819K
Estimated UP Awards	\$1.2B
multi year awards	

## Forward Presence FY09

Co-located: 3 Service Control Points  
5 Geographic Regions: approx. 254 personnel

## Personnel on Board FY09

Civilians	1033
Military	63

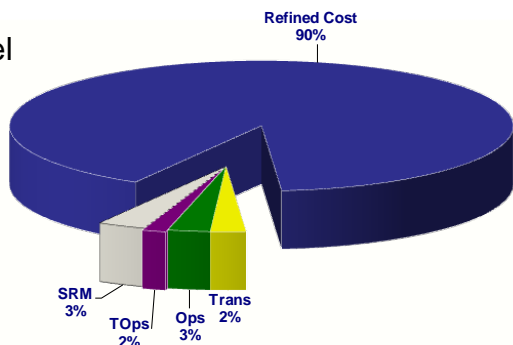
\* 42 Gallons = 1 Barrel



# Stewardship Improvements

## Petroleum Cost Breakdown

\$118.44/Barrel



## Petroleum Standard Prices

- Product portion set by OSD-C and OMB
- In recent years there have been several standard price changes
- FY10 - two prices to date

OCT	-	DEC	\$116.76/Barrel
JAN	-		\$118.44/Barrel

## Petroleum Net Sales (M Barrels)

	<u>FY08</u>	<u>FY09</u>	<u>FY10 (EST)</u>
Air Force	61.5	62.3	58.1
Navy	35.7	32.3	32.6
Army	20.9	19.8	20.2
Marines	0.7	0.7	0.7
Other	13.7	13.9	13.9
<b>Total</b>	<b>132.5</b>	<b>129.0</b>	<b>125.5</b>

## FY09 Aged Collection Efforts

- Retail
  - Total amount settled \$174.0M
    - Collected \$166.7M
    - Realigned \$ 7.3M
- Foreign
  - Total amount settled \$ 37.5M
    - Collected \$ 35.8M
    - Realigned \$ 1.7M



# Energy Initiatives

## DESC Energy Strategy

- Lead developmental efforts to execute Alternative Fuel/Renewable Energy solutions for the warfighter
- Increase leadership role within DoD and Inter-agency
  - Represent DOD on DOE Energy Task Force
  - Chair Inter-Agency Working Group
  - Leverage DOD as test bed for R&D
  - Consolidate requirements, leverage economies of scale, reduce duplication of effort

## Installation Energy

- Energy Commodities
  - \$1.6B in natural gas, electricity, coal and renewable energy contracts
  - Serving over 200 customers (DOD/Fed Civ)
  - \$47M in natural gas cost savings for FY08
- Energy Savings Performance Contracts
  - Private sector investment in energy conservation
  - Partnering with DOE...ESPC ID/IQ contracts
  - Guaranteed energy savings pay contractor
  - 8 contracts awarded to date, \$397M award value

## Energy Enterprise

- Utility Privatization (UP)
  - Private vs DoD ownership = modern systems
  - Awards made for 79 systems at 50 installations
  - Award value: \$9.11 B, \$1.86 B less than should-cost estimate
  - MOA with Air Force to administer UP contracts



## Current Initiatives

- Algae oil derived F-76
- Biomass derived HRJ-5 & HRJ-8
- Section 333 Congressionally mandated study
- Carbon Capture Sequestration Study for DoD
- Mobile Waste to Energy
- Solar Project DOE Princeton Plasma Lab, NJ
- Solar Project EPA Edison Lab, NJ
- Solar Project DDJC, San Joaquin CA





# Focused Customer Change

## Air Force

- *AF Energy Plan 2010* – “Increase Supply” Goals
  - By 2016, acquire 50% of domestic aviation fuel via alternative blends greener than petroleum
  - Increase facility renewable energy at annual targets
  - Increase non-petroleum-based fuel use by 10% per annum in motor vehicle fleet

## Army

- *Army Energy Security Implementation Strategy* – 2009
  - ESG 3: Increased use of Renewable/Alternative Energy
  - ESG 4: Assured Access to Sufficient Energy Supply
  - ESG 5: Reduced Adverse Impacts on the Environment
  - Established a Tactical Fuel and Energy Implementation Plan Working Group (DESC supporting)

## Navy

- *Navy Energy Goals*, published Oct 2009
  - Green Strike Group by 2012
  - Reduce petroleum by 50% in the commercial vehicle fleet by 2015
  - Produce 50% of shore based requirements from alternative sources by 2020
  - Supply 50% of total energy consumption from alternative sources by 2020

## Other

- Intended nominee for Director of Operational Energy Plans and Programs
- DESC realigning to meet this evolutionary change
- NDAA FY10 Section 334 mandated study
  - Comprehensive assessment of the use of renewable fuels as alternative fuels in aviation, maritime, and ground transportation fleets



# Synthetic Fuels

## Goals & Actions

- USAF Previously Identified Goals
  - Certify all Platforms by 2011
  - 50% Domestic Aviation Fuel Requirement Using 50:50 Alt Fuel Blend by 2016
- First DESC Synthetic Fuel Request for information - May 06
  - 28 Responses Received
    - 20 proposed Fischer-Tropsch process
    - Long Term Contract, Loan/Price Incentives

## DESC Syn-Fuel Awards

- Three Awards for FT Iso-paraffinic kerosene for Air Force platform certification
  - June 2007 – Shell – 315,000 USG
  - Natural gas feedstock – Sarawak, Indonesia
  - June 2008 – SASOL – 60,000 USG
  - July 2008 – SASOL – 335,000 USG
  - Both Coal feedstock – Secunda, South Africa
- Navy award for FT F76 for engine testing
  - Sept 2009 - 20,000 USG – PM Group
  - Natural gas feedstock – South Africa

## DESC Alaska Pilot Effort

- DESC effort to encourage commercial production of synthetic fuel – FT, feedstock neutral
- All jet requirements in AK, WA, OR under 50/50 blend specification for 5 year period with five year option (maximum allowable)
- Multi-Step Advisory Process used – process put on strategic pause of no response to first step
- Industry indicated problems with feedstock availability, credit availability, and size of requirement as some major issues

## Current Initiatives

- DESC working closely with ATA/CAAFI on combined efforts to bring commercial alternative and renewable fuels to the market place
  - Strategic Purchasing Alliance
  - Re-examining Alaska and assessing other potential locations
  - Working groups focused on key areas
  - Joint Industry Forum to be held at DESC Worldwide Energy Conference in May of 2010



# DESC Biofuel Efforts

## HRJ-8

- Delivery of up to 400,000 gallons of HRJ-8
  - 2 contracts awarded for 2 different feedstocks
  - Camelina and Tallow derived
  - 100,000 gallons per contract, with options for an additional 100,000 for each
  - Supports Air Force testing & certification efforts

## HRJ-5

- Delivery of up to 190,000 gallons of HRJ-5
  - 1 contract awarded for a singular feedstock
  - Camelina derived
  - 40,000 gallon contract, with option for an additional 150,000 gallons
  - Supports Navy testing & certification efforts

## HRJ-5 Algae

- Delivery of up to 1500 gallons of HRJ-5
  - Algae Derived
  - Supports Navy testing & certification efforts

## F-76

- Delivery of 20,055 gallons of F-76
  - 1 contracts awarded
  - Algae derived
  - Supports Navy & certification efforts
  - 5 USG, 50 USG and 20k USG deliverables



# Forward Operating Base Support

## FY09 NDAA Section 333

- Study on Solar and Wind Energy for Use for Expeditionary Forces
  - Reduce the fuel needed to provide electricity for expeditionary forces
  - Look at potential cost savings
  - Look at environmental benefits
  - Study completed



## Electronic Power Control and Conditioning System

- Mobile 500-kW containerized system
  - Can integrate conventional and renewable sources of electric power
  - Can convert DC to AC providing load management
  - Planned delivery to National Training Center for testing





# On-Site Renewable Power Projects

These projects are financed, owned, operated and maintained by a third party under a power purchase agreement, therefore there are no up-front capital costs to the Government.

## DOE Princeton Plasma Physics Lab, NJ

- 1 MW Ground and Rooftop Mounted PV arrays
- 10 Year Contract Term, FAR Part 41
- Solicitation issued Feb 09/closed May 09
- Negotiations in progress
- Projected Award Decision: 2<sup>nd</sup> Qtr FY10

## EPA Edison Laboratory, NJ

- 2.5 MW Ground Mounted PV array
- 10 Year Contract Term, FAR Part 41
- Solicitation issued Aug 09/closed Dec 09
- Technical Evaluations in progress
- Projected Award Decision: 4th Qtr FY10

## California Initiatives

Defense Depot San Joaquin, CA:

- 800 kW Ground Mounted PV array
- Solicitation issued May 09/closed Aug 09
- 10 Year Contract Term, FAR Part 41
- Negotiations Open Jan 10

Defense Fuel Support Point, San Pedro, CA:

- 1MW Ground Mounted PV Array
- ESPC contract-25 Year Contract Term
- Acquisition Planning Stage

## Hawthorne Army Depot, NV

- Min. 30 MW up to 200 MW Geothermal Plant
- Utilize 10 USC 2922a for 30 Year Contract
- Power will not be used on-site, sold to Utility
- Partnering with the Navy Geothermal Program Office for technical expertise
- Acquisition Planning Stage



# Conclusion

- DoD and Fed Gov't Energy Requirements Continue to Evolve
  - The Future is Now
- Many Challenges Exist
  - Operational-sized Plants
  - Deliverability
  - Financing Constraints
  - Environmental Requirements
- Are We Poised to Meet Them?
  - Organization and Vision
  - Swim Lanes for Efficiency
  - Rules and Regulations Updated
  - Gov't and Commercial Sector Working Together



# Back-Up Charts



# Interagency Working Group

- Web site: <https://afre.dtic.mil/wiki>
  - Register online
  - Site allows registered users to engage in discussion forums, attached documents to share across agency lines, submit professional profiles to interact with agency peers and foster communication as tool for interagency coordination.
  - Any questions on the registration process can be directed to the DESC public affairs at [DESCpublicaffairs@dla.mil](mailto:DESCpublicaffairs@dla.mil).