Accelerating Domestic Alternative Fuel Capabilities for National Security

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Our Energy Goals

**Increase Alternative Energy**
Department-wide

**Increase Alternative Energy Sources Ashore**

**Reduce Non-tactical Petroleum Use**

**Sail the “Great Green Fleet”**

**Energy Efficient Acquisitions**

**By 2020, 50% of total Department energy consumption will come from alternative sources**

**By 2020, at least 50% of shore-based energy requirements will be met by alternative sources; 50% of Department installations will be net-zero**

**By 2015, Department will reduce petroleum use in vehicles by 50%**

**Department will demonstrate a Green Strike Group in local operations by 2012 and sail it by 2016**

**Evaluation of energy factors will be mandatory when awarding contracts for systems and buildings**
Great Green Fleet Biofuel Needs

Biofuel Delivery Schedule & Requirements

- **F-76** and **JP-5**
- 2009: 0.1 Bbls
- 2010: 1.2 Bbls
- 2011: ~8,000 Bbls
- 2012: ~80,000 Bbls
- 2016: ~8,000,000 total (JP-5 and F-76)

Test and Certification

JP-5

1st Green Fleet Demo

2nd Green Fleet Demo

50% Alt Fuel

F-76

Test and Certification
Great Green Fleet Certification

Ship Progress

- 7m RHIB 50/50 Algal Biofuel Test
- RCB-X 501K
- YP Boat
- LCAC
- MAERSK
- CVN EDG (JP-5)
- National Defense Test Ship
- Green Strike Group Demonstration

**F/A-18 Flight Test Completed**

**MH-60S**

**FY2010**

**FY2011**

**FY2012**

**FY2016**

**Great Green Fleet**

Aviation Progress

**Assistant Secretary of the Navy (Energy, Installations & Environment)**
Aviation Biofuel

- Green Hornet flies supersonic at Naval Air Station Patuxent River
- Final approval and certification of camelina-based biofuel completed for F/A-18 Hornet.
- Continuing testing on additional aviation platforms.
In August 2011, the Osprey was tested and flawlessly operated on a blend of 50-50 camelina-based biofuels.
At the Sep 3 & 4 NAS Patuxent River airshow, the Blue Angels flew on a 50:50 blend of biofuels.
Why?

- As a Navy and a nation, we rely far too much on foreign sources of fossil fuel
- This dependency degrades our national, energy, and economic security
- Military capabilities, missions, and warfighters need steady, reliable supply of energy to keep nation and our nation’s interests safe
- A domestic, alternative fuels market is essential to enhance American energy independence and security
Why Now?

- **Price volatility of petroleum**
  - $1 per barrel rise = $30 million annual increase to Navy

- **National security and economic consequences of U.S. dependency on foreign oil getting worse with time**
  - Political instability amongst several key oil producing nations

- **Current domestic biofuel capacity is insufficient to meet Defense needs**
  - SECNAV goal of 50% of total DON energy consumption from alternative sources by 2020 (330 million gallons per year by 2020)

- **Positive 2nd and 3rd order effects**
  - Unique moment of opportunity to impact commercial needs, job creation, rural development, export technologies, carbon footprint
What?

- The Navy is working with the USDA and the DOE to utilize existing federal authorities to partner with private industry towards the construction or retrofit multiple domestic alternative fuel plants and refineries with the following characteristics:
  - At or near commercial-scale (10 million gpy neat fuel)
  - Drop-in replacement 50-50 blends meeting military specs
  - Fuel prices competitive with fuel intended to be replaced
  - Geographically diverse locations
  - No impact on food supply
  - No negative second and third order effects
How?

- **Secretary Vilsack, Secretary Chu, and Secretary Mabus met on 12 May to align:**
  - **Existing Federal authorities**
    - Defense Production Act Title III
    - Commodity Credit Corporation
  - **Resources**
    - $170 million per agency FY11 through FY13
    - $510 million combined total FY11 through FY13 (a minimum 50% cost share with industry is assumed)
- **Goal: one clear signal to industry with a single solicitation utilizing existing authorities**
- **MOU between USDA, DOE, and DoN signed June 2011**
Defense Production Act Title III

• **Title III actions stimulate private investment in production resources by reducing the risks associated with the capitalization and investments required to establish the needed production capacity.**

• **Objectives:**
  – Expanding/sustaining production capacity
  – Ensuring U.S. Government access to technology/resources
  – Ensuring long-term commercial viability

• **Title III provides authorities that enable the Government to rectify industrial base shortfalls**

• **Synergy of technical and business objectives focused on long-term economic viability and technology insertion**

• **Title III Program has proven performance and innovative execution**
Commodity Credit Corporation

CCC can be used to complement to DPA Title III authority:

- Allows fuels comprised of agricultural oils to be purchased at a price premium and sold at a competitive rate to DoD
- Covers the cost differential between the premium and the competitive price
- CCC does not have any employees; uses the services of State and Federal agencies to carry out its activities
- CCC can authorize DoD contracting officers to contract on behalf of CCC and/or use CCC funds
Event Timeline

Great Green Fleet Demo

- DON, DOE, USDA MOU
- RFI & Industry Day
- Solicitation
- Proposal Review
- DON $170M 1st Awards
- Construction Begins
- Integrated Biorefineries

Great Green Fleet Sails

- Funds Obligated
- Contracts Award
- Production Begins
- Delivery Begins

Integrated Biorefineries

- USDA, DOE $340M 2nd Awards
- Millions of Gallons of Biofuels
- 330MM gal in 2020

($510M total from DON, DOE, USDA)
Back up Slides
“I’m directing the Navy and the Department of Energy and Agriculture to work with the private sector to create advanced biofuels that can power not just fighter jets, but also trucks and commercial airliners.”  President Obama at Georgetown University, March 2011
The Biofuels Enterprise Model

Participants include:

- Landowners
- Farmers
- Ag Processors
- Trade Groups
- Refiners
- Technologists
- Distributors
- Military Services
- Regulatory Agencies
- Defense Logistics Agency – Energy

Resources to bring to enterprise to reduce process risk:

- USDA
- Department of Energy
- Private Sector
- Department of Defense

How do we stimulate industry to produce enough volume to be meaningful to military operations and to the energy market?
Locations of Biofuel Companies of Interest Across the U.S. (by District)