DEPARTMENT OF THE NAVY

Farm To Fleet:
The Blueprint

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President on America's Energy Security

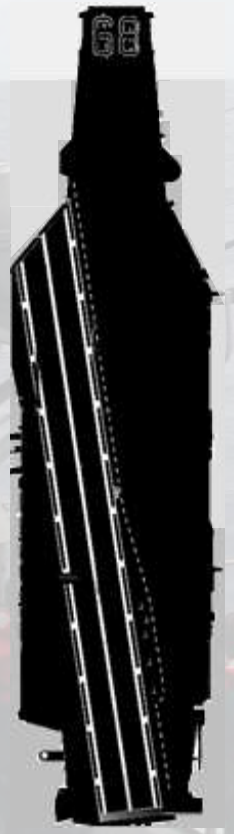
"I'm directing the Navy and the Department of Energy and Agriculture to work with the private sector to create advanced biofuels that can power not just fighter jets, but also trucks and commercial airliners." ***President Obama at Georgetown University, March 2011***

SECNAV 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*

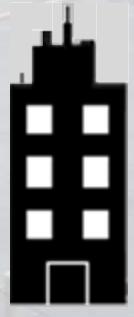
Naval Energy Profile

Energy Consumption



75%

Tactical



25%

Shore

Energy Sources

57%

Petroleum

26%

Electric & Nat Gas

16%

Nuclear

1%

Renewables

Law & Policy

2014 NDAA Section 315, Limitation on Availability of funds for procurement of drop-in biofuels:

(a) LIMITATION.—**None of the funds authorized** to be appropriated by this Act or otherwise made available for fiscal year 2014 for the Department of Defense **may be obligated or expended to make a bulk purchase of a drop-in fuel** for operational purposes **unless the cost of that drop-in fuel is cost-competitive with the cost of a traditional fuel** available for the same purpose.

OSD Alternative Fuels Policy for Operational Platforms

"…alternative **drop-in replacement fuel** procured for DoD-wide use and distribution within the Class III (Bulk) supply chain **will compete with petroleum products** under the DLA Bulk Purchase and Direct Delivery Purchase Programs. Awards will be **based on the ability to meet requirements at the best value to the government, including cost**."

Farm to Fleet Program Goals

- Industry Run-time
  - Steady demand signal and bridge mechanism (CCC) to allow process & feedstock improvements
- Move towards SECNAV goals
  - Fuel for Great Green Fleet 2016
  - Begin industry ramp-up to get 336 million gal by 2020
- Transition to cost-competitiveness

- Push the snowball off the peak

Farm to Fleet

- CCC price support will be available for cost-competitive biofuels produced from USDA approved feedstocks
- Solicitations pending (spring 2014) – ask DLA Energy
- Deliveries scheduled to begin:
  - April 2015 with the Inland/East/Gulf Coast region
  - June 2015 for Rocky Mountain/ West Coast region
  - These two solicitations cover all 50 states

2012 GGF DEMONSTRATION

Pacific Ocean USS Princeton (CG 59) pulls oiler USNS Henry J. Kaiser (T-AO 187)

Royal Australian Navy S-70B Sea Hawk helicopter

SECNAV and CNO aboard USS Chafee

USS Princeton (CG 59) ,USS Nimitz (CVN 68)

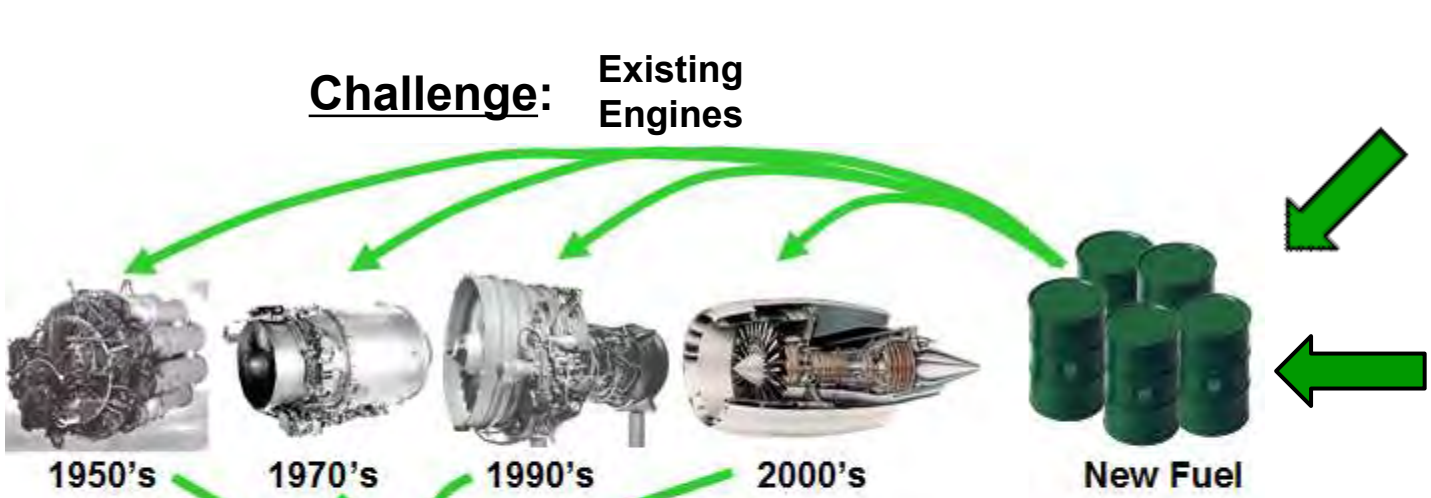
Alternative Fuels

Requirement:

Alternative fuel must be a drop-in replacement, invisible to the operator

- ✓Meets fuel performance requirements
- ✓Can be mixed or alternated with petroleum fuel
- ✓Requires NO change to aircraft or ship
- ✓Requires NO change to infrastructure

Challenge: Existing Engines



Test And Cert Protocol

Basic Approach

- Drop-in approach validated at GGF 2012, will be how DON moves forward
- Drop-in means that the fuel must function indiscernibly from petroleum, both to the infrastructure and the operator
- No cases requiring special handling, tuning, or any differences will be entertained

The New Normal

- As alternative fuels annexes are added to fuel MILSPECs, DON wants to add alternative fuels purchases
  - Currently we seek HEFA or F-T at a minimum of 10% up to a 50% blend; 10% of entire JP-5 and F-76 pool should equal total neat biofuels volume
- Next DON will move out to worldwide adoption and acquisitions
  - USDA CCC only covers 50 US states, territories, and protectorates
- Making the fuel supply as diverse as possible gives operational flexibility and energy security otherwise unachievable with a single commodity

How to Take Part

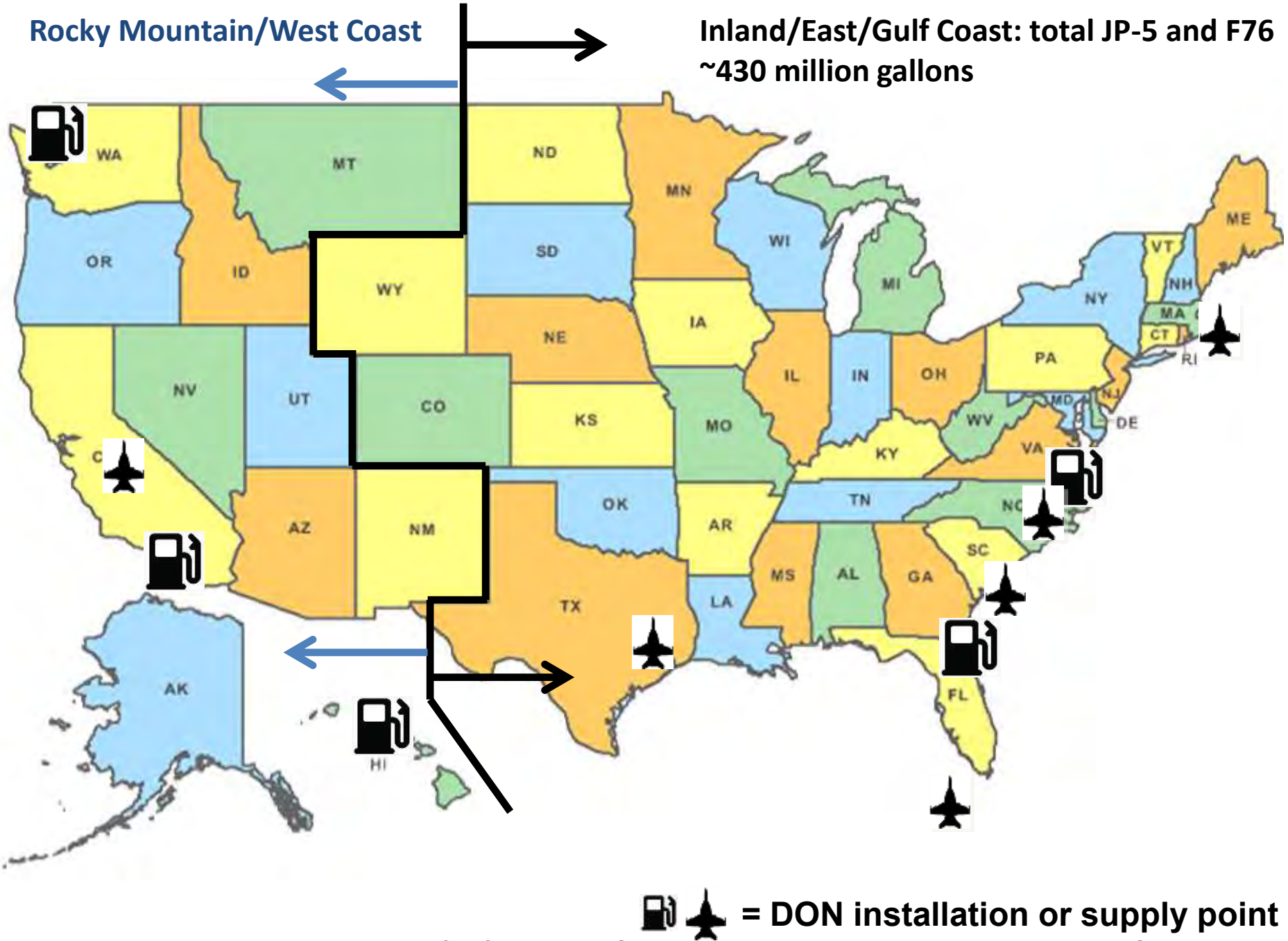
- At a minimum:
  - Hit the MILSPEC
  - Meet EISA 526 (same or better GHG than petroleum)
  - Offer a price competitive with petroleum when fully blended and ready for use
  - The competition will be full and open
    - CCC price support availability requires domestically produced, USDA listed feedstock

How to Take Part

- **But strong competitors will also:**
  - **Follow RFS2 pathway and generate a RIN**
    - **Navy F-76 *IS NOT* subject to ocean-going vessel restriction**
  - **Realize CCC funds are limited, and statutory guidance will be strictly interpreted**

- **Let's note again what is law:**

"None of the funds authorized to be appropriated by this Act or otherwise made available for fiscal year 2014 for the Department of Defense may be obligated or expended to make a bulk purchase of a drop-in fuel for operational purposes unless the cost of that drop-in fuel is cost-competitive with the cost of a traditional fuel available for the same purpose."



Examples

- 10% blend vs 10% blend, A is $0.01/gal > B
- 10% blend vs 20% blend, 10% Price = 20% Price
- 10% blend vs 20% blend, 20% Price > 10% Price

Answer key (DOD Alternative Fuels Policy):

- "Awards will be based on the ability to meet requirements at the best value to the government, including cost."

Thank You

F/A-18E
Mt. McKinley, Alaska