



# RHUMB LINES

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October 28, 2009

## Navy Task Force Energy Tactical Investments

*“This new LHD, Makin Island, has a revolutionary hybrid propulsion plant. At high speeds it runs on gas turbine engines and at lower speeds it runs on an electric drive, just like a hybrid car. Combined with this gas-saving propulsion plant is a new computerized machinery control system which is the most advanced in the fleet today. It controls everything from ventilation throughout the ship, to the engines and ballasting systems.”*

– **Capt. Bob Kopas, Commanding Officer of USS Makin Island (LHD 8)**

In addition to a robust shore energy investment strategy, the Chief of Naval Operations’ Task Force Energy is championing a number of tactical investments.

### Task Force Energy tactical investments

- The F/A-18 F414 engine efficiency demonstration will test multiple engine technologies which could reduce the amount of fuel consumed per flying hour by three percent for one of the Navy’s largest consumers of aviation fuel, the F/A-18 E/F. The Aviation Energy Conservation Program is evaluating a number of promising engine technologies to improve efficiency, reduce fuel consumption and enhance aircraft flight management. Initial technologies will be evaluated on the T-56 engine.
- Investments in alternative fuels from renewable sources for aircraft, ships, base vehicles and support equipment are a key component of Task Force Energy’s investment strategy. Fuel derived from the camelina plant is being developed and tested for the F/A-18 “Green” Hornet demonstration project. Algae derived fuels are being evaluated for a “Green” ship initiative. Other non-petroleum sources are possible candidates for base vehicles and support equipment.
- A Hybrid Electric Drive (HED) system is being studied for DDG 51-class destroyers. Estimates are that this HED technology could achieve more than 10 percent fuel savings for the class, which amounts to more than 9,000 barrels of fuel saved per ship per year.
- The Navy Shipboard Energy, Fleet Readiness Research and Development Program (FRR&D) is responsible for initiatives ranging from efficient light bulbs and propeller coatings to automated steam boiler controls and hull hydrodynamics improvements. FRR&DP extends operational capability by reducing fuel consumption by one to six percent.
- USS Makin Island (LHD 8) is the first U.S. Navy amphibious assault ship to replace steam boilers with gas turbines, and the first Navy surface ship to be equipped with both gas turbines and an auxiliary propulsion system. Over the course of the ship’s lifecycle, the Navy expects to see a savings of more than \$250 million, proving the Navy’s commitment to energy awareness and conservation.

Key Messages	Facts & Figures
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- The Department of the Navy’s emerging energy strategy is centered on energy security, energy efficiency and environmental stewardship while remaining the pre-eminent maritime power.
- Energy security is critical to mission success. Energy security safeguards our energy infrastructure and shields the Navy and Marine Corps from a volatile energy supply.
- Energy efficiency increases mission effectiveness. Efficiency improvements minimize operational risks, saving time, money and lives.
- Environmental stewardship protects mission capabilities. Investment in environmentally responsible technologies afloat and ashore reduces green house gas emissions and lessens dependence on fossil fuels.

- Propeller coating incorporated on LHA, LHD and LPD4 ships are expected to save 1,300 barrels of oil per ship per year.
- Stern flaps installed on LHD- and LSD-class ships are expected to save 5,500 and 2,100 barrels of oil per ship per year respectively.
- In fiscal year 2009, The Navy invested \$41 million in maritime initiatives and \$36 million in aviation and expeditionary initiatives.
- During fiscal year 2010, the Navy plans to invest approximately \$39 million on a combination of tactical investments.