Blue Water, Green Fleet: The Navy Gets Eco-Friendly

By Bryan Walsh
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In 1907, then President Theodore Roosevelt dispatched a U.S. Navy fleet of 16 battleships for a 16-month trip around the world. Though the hulls of the ships were painted white, the Navy's peacetime color scheme — which led observers to nickname the vessels the Great White Fleet — the voyage wasn't a holiday cruise. In the wake of the Spanish-American and Russo-Japanese wars, Roosevelt wanted the world to know that the U.S. was emerging as a major military power, one capable of projecting naval strength to every stretch of the oceans. Naval power would help define the geopolitics in the 20th century, and with the Great White Fleet, the U.S. raised the table stakes for every other nation.

It's the 21st century now, and the defining geopolitical issue today may well be energy and everything that surrounds it, from climate change to imported oil. While American politicians seem unable to craft a meaningful energy policy — witness the breathtakingly stupid decision last week by House Republicans and a few Democrats to vote against energy-efficiency standards for lightbulbs — the U.S. Navy is rising to the challenge again. By 2016 the Navy plans to organize and sail a "Great Green Fleet" that will include nuclear vessels, hybrid electric ships and aircraft powered by biofuels. Just like its conventional counterpart more than a century ago, the Great Green Fleet will put the world on notice that the U.S. can indeed lead on energy — at least when it comes to the Navy and the military.

"This is about making sure that a critical part of the combat ethos is now an energy ethos," says Rear Admiral Philip Hart Cullom, the director of the Navy's Energy and Environmental Readiness Division. "We need a Spartan mind-set so we can sustain our mission in perpetuity — otherwise we're left vulnerable."

Cullom and his colleagues in the Navy know they have little choice but to get green and lean. The Department of Defense burns more oil than any other public or private entity in the world — 135 million barrels of fuel in 2010 — and the Navy is second only to the Air Force among the service branches in its fuel guzzling. Navy officers are also intimately aware of the cost of securing foreign oil for the U.S. — keeping the crude flowing safely from the Middle East is a major duty for the Bahrain-based Fifth Fleet.
Dependence on imported oil may be the American military machine's single greatest vulnerability. And that vulnerability isn't just on the seas and in the field. With the cost of energy rising — the military spent $20 billion on fuel and electricity last year — and the federal debt putting pressure even on the Defense Department's usually untouchable budget, efficiency is about organizational survival too. "This should be a reality check for our supply lines and logistics and politics," says Cullom. "We need to instill a culture of conservation from the top to the bottom."

The military has one big advantage there: it doesn't have to worry about filibusters or public opinion. That's led the Navy to put forward bold goals on energy that far outpace what seems to be politically possible in the civilian world. By 2015, the Navy has pledged to reduce petroleum use in its commercial-vehicle fleet — think jeeps and trucks — by 50%. By 2020, the Navy says it will produce at least 50% of shore-based energy from alternative sources, while 50% of Navy installations will be net zero — meaning they'll use no more energy than they produce. Altogether by the end of the decade, 50% of total Navy energy consumption will come from alternative sources.

Going so green won't be easy, though. The Navy has steadily improved the energy efficiency of its onshore facilities — thanks in part to a recent decision to make energy decisions mandatory when awarding contracts for buildings — and has added renewable energy to some of its bases. But just 1% of the energy used by the Navy in 2008 came from renewable sources (though an additional 16% came from carbon-free nuclear, thanks to atomic subs and carriers). And if a new biofuel or other alternative isn't combat-ready, the military isn't going to adopt it just to look green. "We can't operate on ethanol because it doesn't have enough energy density," says Cullom. "You need something that looks and smells and acts like a petroleum equivalent."

Indeed, a report earlier this year from the Rand Corp. argued that the focus on biofuels by the Navy and Air Force was a mistake, and that a quick movement off oil simply wasn't feasible. Perhaps not — but from GPS navigation to the Internet, military R&D has helped lead to breakthroughs in civilian life. There's reason to hope, then, that we could achieve similar successes for energy, particularly since the Navy is already partnering with civilian groups like MIT's Sloan School of Management. "The Navy can be a tremendous resource for the rest of us on this," says Jonathan Lehrich, the director of MIT Sloan's M.B.A. program for executives, which has hosted midcareer Navy officers working on energy policy.

But maybe the best contribution the Navy and the other branches of the military can offer the rest of the country is the willingness to actually do something about energy. At a time when the politics over climate, oil and energy remains deeply polarized in the U.S. — and when much of the Republican Party seems to be dead set against any government action on efficiency or renewables — the Navy is dispensing with the
silliness and simply doing it. "We need the sailor on the desk and the Marine on the field to understand why this is important," says Cullom. "That's the biggest piece of this challenge." If they can do it, it seems like the rest of us should be able to fall in line.