

Understanding Defense Energy

By Oliver Fritz | June 17, 2014

As the primary advisor to the Secretary of Defense on defense energy issues, the Assistant Secretary of Defense for Operational Energy Plans and Programs (ASD(OEPP)) reviews and evaluates a wide range of energy information from across the Department. In this blog post, we provide background and context on the different kinds of energy information collected by the Department. In doing so, we will illustrate how operational energy – the energy required for training, moving, and sustaining military forces and weapons platforms for military operations – is derived from the overall volumes of liquid fuel purchased and used by the Department.

Finding the Fuel – DLA Purchases Petroleum on the Open Market

The Defense Logistics Agency (DLA) is the primary purchaser of liquid petroleum products for the Department. Working with a variety of providers through open solicitations and competitive bids, DLA purchases fuel in bulk for the Department, outlined by amounts in its annual Fact Books. Included below at chart one is a summary of DLA petroleum purchases from FY 2007 to FY 2012 in then-year dollars. These purchases include the full range of liquid fuels, including JP8, diesel, and other types of fuel purchased for the Department from worldwide refiners and eventually consumed here at home and around the globe.

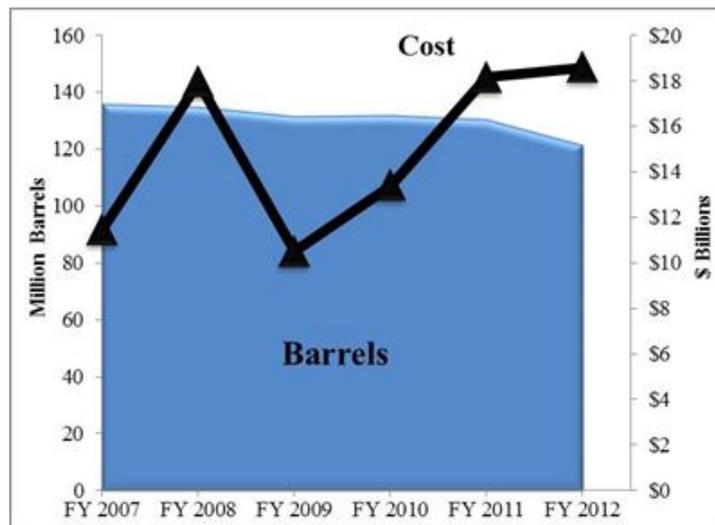


Chart 1: DoD Petroleum purchases FY 07-12
Graph by Dan Perez

Getting Closer to Point of Use – DLA “Sells” Fuel to the Military Departments

Once the fuel is purchased in bulk, DLA is then responsible for transporting, storing, and eventually “selling” the fuel to the Military Departments for specific end uses. These “Net Sales” differ from purchases in a few ways. First, not all the fuel purchased by DLA is transferred to the Military Departments; small amounts may be sold to local governments, contracts, and other entities. Second, in terms of volumes, not all fuel purchased in one fiscal year is immediately distributed to the Military Departments and may be stored for distribution in the following fiscal year. Finally, DLA-Energy uses a “standard price of fuel” to normalize the different prices it may pay to purchase petroleum around the globe and reflect the expenses incurred to purchase, store, and distribute the fuel. The Military

Departments then use this Standard Price when acquiring fuel from DLA. Chart two below details Net Sales for the Department from FY 2007 to FY 2012 by amount and cost in then-year dollars.

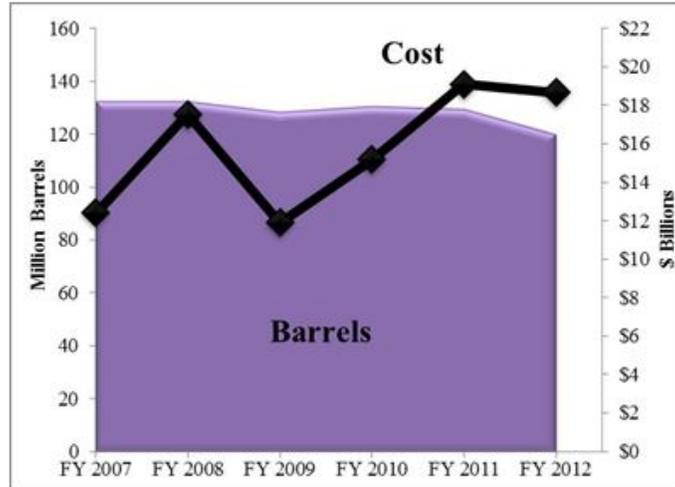


Chart 2: DoD Net Sales of Petroleum
Graph by Dan Perez

Energy Use in Training and Warfighting – Operational Energy

After the fuel is transferred to the Military Departments; the energy is used to power a range of operational and non-operational activities. In the Operational Energy Annual Reports to Congress, ASD(OEPP) estimates demand for “Operational Energy,” or the energy used in warfighting and training. To estimate operational energy demand, Net Sales are filtered to include only certain types of petroleum and geographic locations. For instance, all JP8, JP5, and F76 fuels worldwide are included as operational energy since they are specifically designed for use in military generators, tactical vehicles, aircraft, and ships. Certain fuels – including unleaded fuel and diesel – may be used in specific theaters or operations (e.g., Operation Enduring Freedom in CENTCOM) and are included as operational energy. Conversely, heating oil used for heating selected facilities is excluded, as is unleaded fuel and diesel used to power non-tactical or “fleet” vehicles here in the U.S. This final depiction is the best estimate of energy used in warfighting and training. Chart three below details operational energy demand for the Department from FY 2007 to FY 2012 by amount from each Service and cost in then-year dollars.

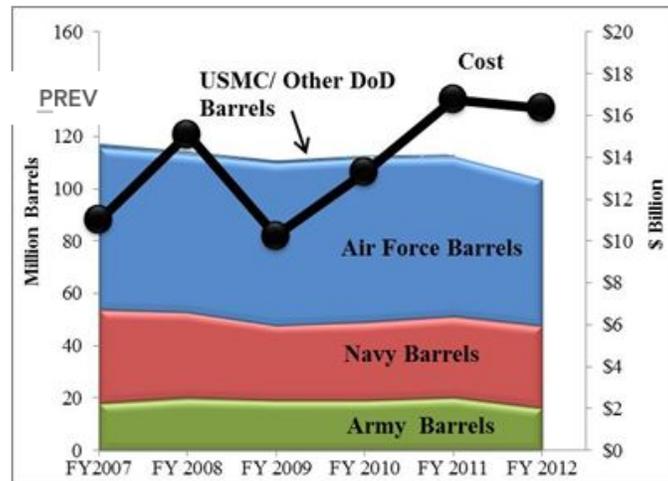


Chart 3: Operational Energy Demand FY 2007-12
Graph by Dan Perez

Discussion

Why do fuel volumes vary year to year? The volumes of fuel vary widely year to year due to a variety of factors including operational needs, training tempo, and changes in demand by individual pieces of equipment. In addition, not all the fuel purchased one year is consumed that same year. Specifically, some fuel may be placed into storage by DLA or by the Military Departments for use at a later date. In addition, fuel is often transferred between Services due to operational demands.

Why do fuel costs vary year to year? The Department purchases petroleum on the open market and therefore is affected by price changes in global energy markets. According to the Energy Information Agency (EIA), the average price of West Texas Intermediate (WTI), a common oil price benchmark here in the United States, increased from \$54.51 per barrel in January 2007 to \$102.07 per barrel in April 2014. In addition, the Department purchases almost 60% of its fuel overseas, where there have been similar price increases. Like other large consumers of energy, the Department is subject to price volatility and these price increases can cause significant financial pressure.

Where can I find this data? You can find this data and more by visiting DLA-Energy's Fact Book Page or read the Operational Energy Annual Reports. This information will be updated with the most current data as it becomes available. Some data may differ slightly from published documents due to updated information and rounding. Please contact us at osd.operational-energy@mail.mil with comments and questions regarding the Department's use of energy in warfighting.

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