



Sustainable Procurement

*Increasing America's
Independence with
Domestic
Suppliers*





Giving Users More Sustainable Product Choices

Biobased products are derived from renewable plant resources and are generally more environmentally benign than their petroleum-based and synthetic counterparts. The Department of Defense (DoD) has decreed the use of biobased products is important to national security, by increasing America's independence with domestic suppliers. For several years, the NDCEE has supported the DoD in decreasing its reliance on petroleum-based items by validating the contents of biobased products and establishing the real costs—from cradle to grave—of product use.

NDCEE Green Product Evaluation and Demonstration Program

In addition to the DoD, we work with the United States Department of Agriculture (USDA) and other government agencies to promote the implementation of biobased products meeting government requirements. These requirements may be stricter than commercial ones, especially in the case of military specifications. Below are examples of our recent achievements.

% = The minimum biobased content a product must have to receive federal procurement preference through the USDA BioPreferred Program. N/A = Not applicable

Product Evaluation and Demonstration

- Confirm product data meet Government specification requirements
- Conduct sustainable product demonstrations

Outreach and Awareness

- Maintain the DoD Sustainable Product Center (SPC)
- Work with installations to identify need areas for sustainable products and provide information on available sustainable products

Increasing DoD Sustainable Procurement

- Inform installations on DoD sustainability policy/directives
- Work with end users to identify barriers to implementing sustainable products
- Assist the Defense Logistics Agency (DLA) in assigning National Stock Numbers (NSNs), making more products available in the DoD Supply System



44%

Hydraulic fluids

under pressure, transmit power to moving parts in many machines and equipment. Biobased fluids require fewer additives and may perform better under heavier loads. We recently tested 7 products on 17 equipment models at 2 military sites. Over the years, we have evaluated 80 biobased fluids to Government specification requirements.

89%

Sorbents

are used for oil and chemical spill cleanup, liquid material disposal, or leakage/leaching prevention. Many biobased sorbents outperform conventional sorbents. Following our demonstrations and at end user requests, DLA Aviation established two new NSNs: 4235-01-599-3952 and 4235-01-595-9846.

68%

Penetrating lubricants

diminish friction in moving parts on equipment susceptible to rusting and help loosen frozen nuts and bolts. We successfully demonstrated 2 products at 18 sites, after which DLA Aviation established new NSNs: 9150-01-591-4213/4274/4281/424 and 9150-01-598-9606. In total, we have tested 16 products.

N/A

Hydraulic Fluid Purification (HFP) systems

remove contaminants to a level that does not adversely affect system performance or reliability while preserving the fluid's performance characteristics. Working with the DLA, we developed a draft performance specification to ensure HFP systems satisfy performance requirements for military aviation equipment.

For more than 20 years, the NDCEE has been identifying, demonstrating, evaluating, and fielding technologies in support of DoD readiness, sustainability, and the Warfighter. Since the establishment of the USDA BioPreferred Program, we have conducted a wide range of product evaluations to support sustainable procurement.

In addition to the below products, examples include biodiesel, coating removal, and biodegradable plastic. More specifically, we evaluated a biodiesel blend and 11 diesel fuel additives for use in military equipment. Because of our findings, installations are using corn-hybrid polymer blasting to remove coatings from delicate substrate components such as radar domes and engine cowlings. We found a marine biodegradable plastic with the potential to replace non-biodegradable disposable products used in shipboard applications. These products include plastic-lined paper drinking cups, trash bags, and packing materials. In 2014, we will demonstrate two-cycle engine oils for water-cooled outboard engines.

34%

Two-cycle engine oils

lubricate engines in smaller equipment such as lawn mowers, chainsaws, and concrete cutters. We demonstrated 4 products on 11 models (representing 8 vendors) at 3 installations. These products produce low or no smoke, have lower emissions, and performed similarly to petroleum products. Their costs also are comparable.

48-72%

Biobased compostable food service ware items

are disposable containers, cutlery, and tableware (plates, cups, straws). We tested 26 compostable products, representing 11 service ware items, at dining halls in two installations. Positive feedback was received from dining facility personnel and customers.

N/A

Firearm Cleaner, Lubricant, Preservative (CLP)

products are multipurpose products used to clean, lubricate and protect small- and large-caliber military weapons. In 2014, we began a field demonstration at Fort Bragg to determine if biobased CLP products can meet DoD performance requirements. CLP is currently not a designated BioPreferred category.

N/A

Multi-attribute sustainable product label

has been developed to display a standardized list of a product's environmental attributes, similar to a food nutritional label. The purpose of this label is to assist purchasers in selecting sustainable products. We will begin demonstrating the label's usefulness in 2014 through dissemination in installation supply stores.



Sustainable Products Center

In 2013, the NDCEE launched the SPC. Its purpose is to increase the visibility of commercially available biobased products and help procurement personnel and product end users make informed decisions on potential alternatives. This independent, virtual center serves as DoD's informational repository for sustainable products. It stores, compiles, and evaluates collected product data. It also provides demonstration details, news articles, and other information on alternative green products and services conducted at DoD installations.

Check it out:

www.denix.osd.mil/spc

Government Directives

Established in accordance with the Farm Security and Rural Investment Act (FSRIA) of 2002, the United States Department of Agriculture (USDA) BioPreferred Program requires all federal agencies to establish a preferred procurement program for biobased products. Federal agencies must give preference to procuring biobased products in categories identified by the USDA if these products meet availability, cost, and performance requirements. The DoD Strategic Sustainability Performance Plan (SSPP), Federal Acquisition Regulations (FAR), Presidential Memorandums and multiple Executive Orders (EOs) direct the DoD and its Services to use biobased and sustainable products as alternatives to currently used non-sustainable products.

Your Product Choice Matters

A common myth has been that green products don't work very well. However, the DoD Sustainable Products Center evaluates sustainable products to ensure they satisfy military specification requirements. Military specifications are often more stringent than commercial requirements because the military has operations worldwide. The military depends on its products to perform in extreme cold or hot temperatures as well as desert, coastal, or rainy climates. Validated sustainable products allow the military to be a good steward of the environment and provide personnel with safer working and training conditions.

- Does your organization use non-toxic and environmentally preferred products?
- Are biobased products used?
- Is their usage required?
- Have you been trained on procurement and product-use practices?
- Are you familiar with the USDA's BioPreferred Program?
- Are you familiar with the DoD's Strategic Sustainability Performance Plan?
- Did you know of DoD's requirement that 95% of its procurement actions must be conducted sustainably?
- What sustainable products do you want offered but aren't currently?
- Are there any performance requirements that prevented your organization from procuring/using a sustainable product?
- What assistance does your organization need to have more sustainable operations?

***How may we help you improve your operations
with sustainable product usage?***

Points of Contact

Erik Hangeland

NDCEE Program Manager/RDECOM, 410-306-3184,
erik.b.hangeland.civ@mail.mil

Jenn Nicholson

Concurrent Technologies Corporation,
443-345-5807, nicholsj@ctc.com



National Defense Center for
Energy and Environment



DoD Executive Agent

Office of the Assistant Secretary
of the Army for Installations,
Energy and Environment



DoD Program Manager

U.S. Army Research,
Development and
Engineering Command

the NDCEE is *proudly* operated by:



www.ndcee.ctc.com

