



U.S. Department  
of Transportation

**Federal Highway  
Administration**

# **FHWA Green Procurement Guide**

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## **Green Procurement Planning – A Sustainability Tool**

The Federal Government is one of the largest purchasers in the world. Federal agencies spent more than \$600 billion for goods and services, including \$25 billion for small purchases via purchase cards. This translates into an obligation and an opportunity to leverage such purchasing power to be a responsible environmental steward by choosing green products.

Stewardship of the Nation's resources is the primary reason to purchase green products and services. FHWA personnel involved in acquisition planning should consider the purchase and use of green products. Program offices will develop requirement specifications to include green standards, per Executive Order (E.O.) 13423.

This should be done during the acquisition planning stage to enhance FHWA's procurement of designated recycled content products, energy- and water-efficient products, bio-based, environmentally preferable products and services, alternative fuel vehicles and alternative fuels, non-ozone depleting substances, and EPA priority chemicals.

For example, standards or specifications unrelated to performance or presenting barriers should be revised or eliminated when reviewing or drafting procurement specifications. Specifically, a preference should be expressed for the aforementioned products and items to the maximum extent practicable.

For example:

Replacing wood with plastic or plastic/wood composite lumber for selected applications removes the need to paint the materials. This reduces routine maintenance costs. Plastic and composite lumber will not rot. Although this lumber is not pressure treated with toxic chemicals like traditional lumber, it lasts longer than wood. Termites will not attack plastic or composite lumber, which eliminates the pest control expenses and need to apply pesticides.

Buying re-refined motor oil and sending the used oil to the producer to re-refine it, significantly reduces the disposal and waste management cost. (This cycle of using, processing and re-using a material is known as closed-loop recycling.) Other viable products for closed-loop recycling include toner cartridges, antifreeze, and tires.

Using the best environmentally preferable purchase may not require expense when reusing materials already onsite. For example, when clearing a construction site, set aside trees and woody shrubs for chipping mulch or for composting. Segregate demolished concrete and asphalt, crush it, then reuse the concrete as aggregate or road-base and reprocess the asphalt for paving. These creative strategies eliminate disposal costs and the acquisition cost of purchasing new materials.

Purchase decisions significantly influence the environmental management performance. More specifically, when FHWA purchases products or designs services, or manages facilities in an environmentally preferable way, we not only benefit the environment, but

there may also be operational cost reductions. The resources saved by buying green can be redirected for enhanced mission fulfillment.

The following is a summary of the key environmental programs that should be considered when developing requirement documents for FHWA program

## **Key Environmental Programs**

### **Recovered Materials and Bio-based Products**

#### **What is the authority for these requirements?**

*The Resource Conservation and Recovery Act of 1976, (RCRA)*, section 6002, requires Federal agencies to procure Environmental Protection Agency (EPA) designated recycled content composed of the highest percentage of recovered materials practicable consistent with maintaining a satisfactory level of competition. In developing plans, drawings, work statements, specifications, or other product descriptions, agencies will consider, as appropriate, a broad range of factors including: elimination of virgin material requirements; use of bio-based products; use of recovered materials; reuse of product; life-cycle costs; recyclability; use of environmentally preferable products; waste prevention (including toxicity reduction or elimination); and ultimate disposal.

*The Farm Security and Rural Investment Act of 2002* (FSRIA, also known as the “Farm Bill”) establishes a bio-based products purchasing program. Bio-based products are commercial or industrial products (other than food or feed) that are composed in whole or in significant part, of biological products or renewable domestic agricultural materials (including plant, animal, and marine materials) or forestry materials. They are made from a renewable resource and, with some exceptions; they generally do not contain synthetics, toxins or environmentally damaging substances. Bio-based products provide markets for U.S. farm products and they also reduce dependence on fossil energy (particularly imported oil), so their use contributes to our energy, economic, and environmental security.

*E.O. 13423 Strengthening Federal Environmental, Energy, and Transportation Management* directs Federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

More specifically, the Federal Acquisition Regulation (FAR) 23.4 establishes a number of specific requirements implementing the requirements outline above. These requirements include:

- Part 23.400 states that the requirements regarding the purchase of designated EPA or United States Department of Agriculture (USDA) designated items apply only if: 1) the price of the designated item exceeds \$10,000 or the 2) the aggregated

- amount paid for designated items, or the functional equivalent designated items, in the preceding fiscal year was \$10,000 or more.
- Part 23.403 states that Government policy on the use of products containing recovered materials and bio-based products considers cost, availability of competition, and performance. Agencies shall assure the use of products containing recovered materials and bio-based products to the maximum extent practical without jeopardizing the intended use of the product while maintaining a satisfactory level of competition at a reasonable price. Such products shall meet the reasonable performance standards of the agency and be acquired competitively, in a cost-effective manner.
  - Part 23.404 requires that Agencies establish an affirmative program for EPA and USDA designated products if the agency's purchases for a designated item exceed the threshold set forth in 23.400.
  - Part 11.303 requires compliance with the 30-percent post-consumer content standard for printing and writing paper.
  - Part 12.301(e)(3) authorizes the contracting officer to use the provisions and clauses contained in Part 23 regarding the use of recovered material for the procurement of commercial items.
  - Part 13.201 applies the procurement requirements in RCRA to purchases at or below the micro-purchase threshold. These are typically made using the Government Purchase Card.
  - Part 36 covers the architectural-engineer selection process and requires the selection criteria for A-E firms to include specialized experience and technical competence in energy conservation, pollution prevention, waste reduction, and the use of recovered materials as appropriate.

### **How does this impact FHWA purchases?**

Purchases of printing and writing paper: 100 percent of all FHWA purchases of printing and writing paper must meet or exceed 30 percent of post consumer materials. See FAR 11.303 for additional details. Additionally, FAR 4.302 requires most contractor submittals should be submitted on double sided paper, and should include 30-percent post consumer materials. Some minor exceptions apply.

Recovered Materials Designated Products: If you are buying an item identified on the EPA's Comprehensive Procurement Guideline (CPG) list, and the total purchase cost for this item is greater than \$10K, you must follow the EPA's CPG for the purchase (unless one of the other exemptions applies).

If you are buying an item identified on the EPA's CPG list, and the Agency has determined that it purchased more than \$10K for this item, in aggregate, for the previous fiscal year, you will be required to apply EPA's CPG guidelines (unless one of the other exemptions applies), regardless of the value of your individual purchase. In this case, the Agency will have developed an affirmative procurement program that includes your designated item.

As of the date of this publication, neither the Department nor the FHWA has established an affirmative procurement program for any designated items. Specific affirmative procurement programs will provide further requirements for tracking designated products.

Below is a summary of the EPA CPG product categories and items. Additional details regarding the EPA CPG products can be found at: [www.epa.gov/cpg/products.htm](http://www.epa.gov/cpg/products.htm). The Web site contains detailed recycled content requirements and recommendations on a product by product basis. Agencies are required to purchase designated products with the highest recycled material content practicable.

**EPA CPG Designated Product Categories**

<p><b><u>Construction Products</u></b>          Building insulation products          Carpet and carpet cushion          Cement and concrete containing coal fly ash, ground granulated blast furnace slag, cenospheres, or silica flume          Consolidated and reprocessed latex paint          Floor tiles          Flowable fill (backfill)          Laminated paperboard          Modular threshold ramps          Non-pressure pipe          Patio blocks          Railroad grade crossing surfaces          Shower and restroom dividers/partitions          Structural fiberboard</p> <p><b><u>Landscaping Products</u></b>          Compost made from yard trimmings or food waste          Garden and soaker hoses          Hydraulic mulch          Lawn and garden edging          Plastic lumber landscaping timbers and posts</p> <p><b><u>Non-Paper Office Products</u></b>          Binders, clipboards, file folders, clip portfolios, and presentation folders          Office furniture          Office recycling containers          Office waste receptacles          Plastic desktop accessories          Plastic envelopes          Plastic trash bags          Printer ribbons          Toner cartridges</p>	<p><b><u>Paper and Paper Products</u></b>          Commercial/industrial sanitary tissue products          Miscellaneous papers (tray liners)          Newsprint          Paperboard and packaging products          Printing and writing papers</p> <p><b><u>Park and Recreation Products</u></b>          Park benches and picnic tables          Plastic fencing          Playground equipment          Playground surfaces          Running tracks</p> <p><b><u>Transportation Products</u></b>          Channelizers          Delineators and flexible delineators          Parking stops          Traffic barricades          Traffic cones</p> <p><b><u>Vehicular Products</u></b>          Engine coolants          Rebuilt vehicular parts          Re-refined lubricating oils          Retread tires</p> <p><b><u>Miscellaneous Products</u></b>          Awards and plaques          Bike racks          Blasting grit          Industrial drums          Manual-grade strapping          Mats</p>
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Bio-based Products:

If you are buying an item identified on the USDA designated list, and the total purchase cost for this item is greater than \$10K, you must follow the USDA's guidelines for the purchase (unless one of the other exemptions applies).

If you are buying an item identified on the USDA's designated list, and the Agency has determined that it purchased more than \$10K for this item in the previous fiscal year, you will be required to apply USDA's guidelines (unless one of the other exemptions applies), regardless of the value of your individual purchase. In this case, the Agency will have developed an affirmative procurement program for your item.

As of the date of this publication, neither the Department nor the FHWA has established an affirmative procurement program for any designated items.

Below is a summary of the designated bio-based products listed by the USDA. Additional details regarding the USDA's bio-based programs and designated items can be found at <http://www.usda.gov/biopreferred>.

<b>Bio-Preferred Designated Items - March 2010</b>			
<b>Construction and Industrial</b>	<b>Min. Bio-based content</b>		<b>Min. Bio-based content</b>
Carpets	7%	Disposable Containers	72%
Chain and Cable Lubricants	77%	Disposable Cutlery	48%
Composite Panels:		Disposable Tableware*	72%
Acoustical	37%	Food Cleaners	53%
Interior Panels	55%	<b>Facility Operations and Maintenance</b>	
Plastic Lumber	23%	2-Cycle Engine Oils	34%
Structural Interior Panels	89%	Corrosion Preventatives	53%
Structural Wall Panels	94%	Diesel Fuel Additives	90%
Concrete and Asphalt Release Fluids	87%	Dust Suppressants	85%

Expanded Polystyrene Foam Recycling Products*	90%	Fertilizers	71%
Forming Lubricants	68%	Gear Lubricants	58%
<b>Fluid-Filled Transformers</b>		General Purpose De-Icers	93%
Synthetic Ester Based	66%	<b>Greases:</b>	
Vegetable Oil Based	95%	Food Grade	42%
<b>Hydraulic Fluids:</b>		Multipurpose	72%
Mobile Equipment	44%	Other	75%
Stationary Equipment	44%	Rail Truck	30%
Industrial Cleaners	41%	Track	77%
<b>Metalworking Fluids:</b>		Heat Transfer Fluids*	89%
General Purpose Soluble, Semi-Synthetic, and Synthetic Oils	57%	Ink Removers and Cleaners*	79%
High Performance Soluble, Semi-Synthetic, and Synthetic Oils	40%	Mulch & Compost Materials*	95%
Straight Oils	66%	Multipurpose Lubricants*	88%
Parts Wash Solution	65%	Penetrating Lubricants	68%
Plastic Insulating Foam for Residential and Commercial Construction	7%	Sorbents	89%
Roof Coatings	20%	Turbine Drip Oils*	87%
Water Tank Coatings	59%	<b>Janitorial</b>	
<b>Wood and Concrete Sealers:</b>		Adhesive and Mastic Removers	58%
Membrane Concrete Sealers	11%	Bathroom and Spa Cleaners	74%
Penetrating Liquids	79%	<b>Carpet and Upholstery Cleaners:</b>	
<b>Miscellaneous</b>		General Purpose	54%
Bedding, Bed Linens, and Towels	12%	Spot Removers	7%
Firearm Lubricants	49%	<b>Films:</b>	
Hand Cleaners	64%	Non-Durable	85%
Hand Sanitizers	73%	Semi-Durable	45%

Lip Care Products	82%		Floor strippers	78%
Office Paper*	95%		General Purpose Household Cleaners	39%
Topical Pain Relief Products*	91%		Glass Cleaners	49%
			Graffiti and Grease Removers	34%
<b>Laundry Products:</b>				
General Purpose	34%			
Pretreatment/Spot Removers	46%			
Multipurpose Cleaners	56%			

\*Proposed product categories to be added in 2010.

### **Are there exemptions to these requirements?**

Yes. If you are required to purchase a designated item under the EPA's CPG, as outlined in FAR 23.400, exemptions under all circumstances can be granted on a case-by-case basis if price, performance, or timeliness issue exists. If you are seeking an exemption, FAR 23.405 requires the contracting officer to place a written justification in the contract file if an acquisition of EPA-designated products, above the micro-purchase threshold, does not meet applicable minimum recovered material content recommended by EPA guidelines.

The contracting officer will base the justification on the inability to acquire the product competitively within a reasonable period of time, at reasonable prices, or at reasonable performance standards in the specifications, provided a written determination by technical or requirements personnel of the performance standard's reasonableness is included with the justification. The technical and requirements personnel must base their determination on National Institute of Standards and Technology guidelines, if available.

The program office should use OST GPP Request for Waiver Form (Attachment No. 1) to document an exemption to the purchase of CPG covered products. The request for waiver should be included in the PRISM Procurement Request package, as an attachment, prior to submission to the contracting office.

For the purpose of this GPP, a product is "unreasonably priced" if it costs more than a comparable non-recycled or bio-based product. EPA's intent (as stated in a Federal Register Notice, August 28, 2001) is for purchasers to choose products having the best environmental performance. EPA noted that procuring agencies are not required to purchase a product containing recovered materials if it is only available at an unreasonable price. This is a judgment call for which no written policy exists. If a product is more expensive, but has environmental or operational benefits, the purchaser is not required to claim the "reasonable price" exemption, but should exercise sound judgment weighing the environmental benefits against any additional costs.

No written justification is required for a waiver under the USDA bio-based program.

**What if there is a conflict and a product is listed on both the EPA CPG and the USDA bio-based designated product list?**

Where there is a conflict between these two programs, the EPA CPG list and requirements take priority.

**What if my product is listed on one of the two lists, but does not meet the dollar threshold for it being a required purchase?**

The lack of an affirmative purchasing program notwithstanding, requirements officials and contracting officers should pursue acquisition strategies that maximize the use of products using recovered materials and bio-based products to the extent practical and cost effective. Just because your purchase is not required, by dollar value, does not mean that you should not choose the designated items and their more environmental friendly versions. It just means that you are not required to do so, and you do not need to document why you did not.

**More information about the EPA CPG and bio-based products:**

EPA CPG Program:

EPA developed the CPG to implement RCRA. The CPG is a list of products that are made with recovered materials, are technologically and economically feasible to produce, and will conserve raw materials and reduce the solid waste stream. The CPG list is the result of scientific analysis followed by a formal EPA rulemaking process. This is a recurring activity. The first CPG list was issued in 1995 and the list continues to grow as EPA issues subsequent CPGs. EPA also issues guidance for buying recovered material products in their “Recovered Materials Advisory Notices” (RMANs). The RMANs recommend recovered material content ranges for CPG products based on current information about commercially available products. RMAN levels are updated by EPA as marketplace conditions change.

Bio-Based Program:

The responsibility for developing this program belongs to USDA. On March 16, 2006, USDA published a Federal Register Final Rule designating six categories of bio-based content products. This program is similar to the “buy-recycled” program managed by the EPA but contains significant differences. The first is applicability. Bio-based product requirements will only apply to Federal agencies’ direct purchases, since Section 9002 does not authorize extending the guidelines to State and local agencies using appropriated Federal funds to procure qualifying bio-based items, or to persons contracting with such agencies with respect to work performed under such contracts. USDA also has the authority to establish a bio-based product labeling program. More information can be found at: [www.ofee.gov/gp/bioprod.asp](http://www.ofee.gov/gp/bioprod.asp).

## **Energy and Water Efficient Products**

### **What is the authority for these requirements?**

Section 104 of the Energy Policy Act of 1995 requires that all acquisitions for energy consuming products and all contracts that involve the furnishing of energy consuming products require acquisition of Energy Star® or Federal Energy Management Program (FEMP) designated products.

More specifically, FAR 23.2 – Energy and Water Efficiency and Reviewable Energy establishes a number of specific requirements for implementing the requirements outlined above. Generally, it is the Government’s policy to acquire supplies and services that promote energy and water efficiency, advance the use of renewable energy products, and help foster markets for emerging technologies. This policy extends to all acquisitions, including those below the simplified acquisition threshold.

### **How does this impact FHWA purchases?**

When purchasing energy consuming products requiring officials should consult that Energy Star® and FEMP designated product lists. If the product they are purchasing is included on the list, the Agency is required to purchase an available Energy Star® or FEMP designated item. The most common purchases for FHWA in this area involve computer and electronic equipment. A more comprehensive list of Energy Star® covered product categories is presented below:

<b>Energy Star®/FEMP Designated Product Categories</b>	
<b>Building Products</b>	<b>Computers &amp; Electronics</b>
<a href="#">Home Sealing - Insulation &amp; Air Sealing</a>	<a href="#">Battery Chargers</a>
<a href="#">Roof Products</a>	
<a href="#">Windows, Doors and Skylights</a>	<a href="#">Computers</a>
<b>Commercial Appliances</b>	<a href="#">Displays</a>
<a href="#">Commercial Clothes Washers</a>	
<a href="#">Vending Machines</a>	<a href="#">Enterprise Servers</a>
<a href="#">Water Coolers</a>	<a href="#">External Power Adapters</a>
<b>Commercial Food Service Equipment</b>	
<a href="#">Commercial Kitchen Package</a>	<a href="#">Imaging Equipment</a>
<a href="#">Commercial Dishwashers</a>	

<a href="#">Commercial Fryers</a>	<b>Heating &amp; Cooling</b>
<a href="#">Commercial Griddles</a>	<a href="#">Air Conditioning, Central</a>
<a href="#">Commercial Hot Food Holding Cabinets</a>	<a href="#">Boilers</a>
<a href="#">Commercial Ice Machines</a>	<a href="#">Fans, Ventilating</a>
<a href="#">Commercial Ovens</a>	<a href="#">Heat pumps, Geothermal</a>
<a href="#">Commercial Refrigerators &amp; Freezers</a>	<a href="#">Light Commercial Heating &amp; Cooling</a>
<a href="#">Commercial Steam Cookers</a>	<b>Lighting</b>
<b>Plumbing</b>	<a href="#">Commercial LED Lighting</a>
<a href="#">Water Heater, Gas Condensing</a>	<a href="#">Light Bulbs (CFLs)</a>
<a href="#">Water Heater, Heat Pump</a>	<a href="#">Light Fixtures</a>
<a href="#">Water Heater, High Efficiency Gas Storage</a>	
<a href="#">Water Heater, Solar</a>	
<a href="#">Water Heater, Whole Home Gas Tankless</a>	

In addition to the Energy Star® products, FHWA requiring officials should consider the purchase of EPA’s WaterSense labeled products, identified as part of the FEMP program, and choose contractors who are certified through a WaterSense labeling program. These requirements would specifically apply to purchases in support of FHWA-owned and operated facilities.

**Are there exemptions to these requirements?**

Yes. The requirement to purchase Energy Star® and FEMP designated products is set aside if no Energy Star® or FEMP designated product is reasonably available that meets the functions requirement of the Agency, or no designated product is cost effective over the life of the product taking energy cost savings into account. This determination must be made in writing and approved by the Head of the Agency.

**More information about the Energy Star® and Federal Energy Management Programs (FEMP):**



Energy Star® is a Government endorsed program that recognizes the most energy efficient of these products. Products that are in the top 25 percent for energy efficiency are eligible for the Energy Star® rating. However, products do not automatically get the rating—it must be applied for by the manufacturer, and their participation in Energy Star® is optional. This means that an Energy Star® rating guarantees that a product has high energy efficiency, but a product does not have to be Energy Star® rated to be highly efficient.

Energy Star® ratings have been awarded to building construction products (roof products, windows, doors, skylights); residential and commercial appliances; and HVAC and lighting products. There are also Energy Star® ratings for whole buildings, in addition to individual products. Commercial buildings can earn Energy Star® labels by performing in the top 25 percent of similar buildings nationwide. Energy Star® qualified homes are independently verified to meet strict guidelines for energy efficiency set by the EPA. These homes are at least 15 percent more energy efficient than homes built to the 2004 International Residential Code, and include additional energy-saving features that typically make them 20-30 percent more efficient than standard homes.

The Energy Star® program was designed to assist businesses and citizens to protect the environment by encouraging the production of superior energy efficient merchandise. Below is a listing of more than 50 product categories eligible for the Energy Star® program.

For more information visit [www.energystar.gov](http://www.energystar.gov).

### Federal Energy Management Program (FEMP)

FEMP establishes energy efficiency performance criteria for heating, ventilating, and air conditioning systems; commercial and residential appliances; construction products; pumps, motors, and transformers; lighting products; and office equipment. For each product, FEMP identifies the efficiency levels needed to meet the requirements for procurement of energy-efficient products and provides a cost-effectiveness example.

While energy efficiency measures the energy consumption of products in use, standby power measures the energy consumption of products that are turned off or in “sleep” mode. E.O. 13423 requires Federal agencies to purchase products that meet low-power standby mode requirements (less than one watt in standby mode). FEMP also sets the criteria for this part of the program. Standby power requirements have been established for a variety of electronic equipment types, including common office equipment such as computers, monitors, printers, copiers, and fax machines.



Water efficiency is also an integral part of every comprehensive energy management program. This is because water requires a significant energy input for treatment, pumping, heating, and process uses. FEMP’s water efficiency program has established ten best management practices

for water conservation at Federal facilities. FEMP's *Water Conservation Guidance* can be found at [www.epa.gov/watersense](http://www.epa.gov/watersense).

The Department of Energy is responsible for managing FEMP. Additional information can be found on FEMP's Web site at [www.eere.energy.gov/femp/procurement/index.html](http://www.eere.energy.gov/femp/procurement/index.html).

## **Alternative Fuels and Fuel Efficiency**

### **What is the authority for these requirements?**

*Energy Policy Act (EPACT)* requires that of the total number of vehicles acquired by a Federal fleet after 1999, 75 percent will be Alternative Fuel Vehicles (AFVs). It also requires that alternative fuels must be used in dual fuel vehicles unless granted a waiver. It also requires Federal agencies to arrange for refueling of AFVs at commercial fueling facilities that offer alternative fuels for sale.

*Energy Independence and Security Act (EISA)* establishes the goal of enhancing our Nation's energy security and improving environmental quality. It addresses all aspects of energy supply and demand including energy efficiency, alternative fuels and renewable energy, as well as more traditional forms of energy such as coal, oil, and nuclear power.

*E.O.13423 Strengthening Federal Environmental, Energy, and Transportation Management* directs Federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically, and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

### **How does this impact FHWA purchases?**

The FHWA leases all Government-owned vehicles under agreements with the General Services Administration (GSA). Where practical and consistent with mission needs, the FHWA will coordinate with the GSA to lease appropriate AFVs. FHWA should arrange for refueling of leased AFVs at commercial fueling facilities that offer alternative fuels for sale where practicable.

### **More information about the alternative fuels and fuel efficiency:**

Alternative fuels are defined by the EPACT and subsequent legislation, and include biodiesel, electricity, ethanol, hydrogen, natural gas, and propane. The Defense Energy Support Center provides the Department of Defense and other Government agencies with comprehensive energy solutions in the most effective and economical manner possible, which includes Web-based tutorials on alternative fuels. Additional information can be found at: [www.desc.dla.mil/default.asp](http://www.desc.dla.mil/default.asp).

The Department of Energy's Clean Cities Program coordinates efforts between Government and industry to accelerate the use of alternative fuels and expand the AFV refueling infrastructure. The Alternative Fuels and Advance Vehicle Data Center is a comprehensive resource for alternative fuel and vehicle information needs. This site has more than 3,000 documents in its database, an interactive fuel station mapping system, listings of available alternative fuel vehicles, links to related Web sites, and much more. The Center's Web site is located at: [www.eere.energy.gov/afdc](http://www.eere.energy.gov/afdc).

The Clean Cities Web site also offers information about Advanced Technology Vehicles (ATVs). These are vehicles that use advanced technologies such as fuel cells or hybrid drive trains. Although ATVs are not considered to be AFVs as described in the EPACT, their purchase is still encouraged by the fuel efficiency requirements of E.O. 13423.

## **Non-Ozone Depleting Substances**

### **What is the authority for these requirements?**

Title VI of the 1990 Clean Air Act (CAA), emphasizes the manufacturing and use of less harmful chemicals. The CAA also required EPA to establish a program to identify alternatives to Class I (CFCs, halons, carbon tetrachloride, methyl chloroform, methyl bromide, and HBFCs) and Class II (HCFC) ozone-depleting substances and to publish lists of acceptable and unacceptable substitutes. These lists are managed by EPA's Significant New Alternatives Policy (SNAP) program. It is illegal to replace a Class I or Class II substance with any substitute which the EPA Administrator has deemed unacceptable.

More specifically, the FAR Part 23.8 – Ozone Depleating Substances establishes policies and procedures for the acquisition of items which contain, use, or are manufactured with ozone-depleting substances. Specifically, the FAR states that it is the policy of the Federal Government to implement cost effective programs to minimize the procurement of materials and substances that contribute to the depletion of stratospheric ozone, and to give preference to the procurement of alternative chemicals, products, and manufacturing processes that reduce overall risks of human health and the environment by lessening the depletion of ozone in the upper atmosphere.

### **How does this impact FHWA's procurement?**

FHWA will seek alternatives for products or services that may contain ozone depleting substances. These requirements may apply to procurements involving building construction/renovation and maintenance products; products for metals, electronics, and precision cleaning; and products used in fire suppression systems, which can all contain ODS. The SNAP Program covers refrigeration and air conditioning; foam insulation; cleaning solvents; fire suppressants; aerosol solvents and propellants; sterilants; and adhesives, coatings, and inks. The SNAP Web site identifies alternatives to ODS products and provides lists of acceptable and unacceptable substitutes. Before installing ODS substitutes in air conditioning and refrigeration systems, always follow the Original Equipment Manufacturer recommendations. Some

substitutes may result in reduction in equipment capacities and changes in operating temperatures. Additional information is available at: [www.epa.gov/ozone/snap/lists/index.html](http://www.epa.gov/ozone/snap/lists/index.html).

## **Priority Chemicals**

### **What is the authority for these requirements?**

E.O. 13423 directed EPA to develop a list of priority chemicals "used by the Federal Government that may result in significant harm to human health or the environment and that have known, readily available, less harmful substitutes for identified applications and purposes."

More specifically, FAR 23.703 – Contracting for Environmental Preferable Products and Services requires agencies to eliminate or reduce the generation of hazardous waste and promote the use of nonhazardous materials.

### **How does this impact FHWA purchases?**

FHWA should seek out alternatives to products that contain chemicals identified by the EPA. EPA has the complete list, and supporting facts, of priority chemicals, which can be viewed at: <http://www.epa.gov/osw/hazard/wastemin/priority.htm>

For immediate reference, the list of the EPA-designated priority chemicals is provided below:

<b>Priority Chemicals</b>	
<b>Chemical Name &amp; Summary Fact Sheet</b>	<b>CASRN</b>
<b>Organic Chemicals and Chemical Compounds</b>	
<a href="#">1,2,4-Trichlorobenzene (PDF) (2 pp, 9K)</a>	120-82-1
<a href="#">1,2,4,5-Tetrachlorobenzene (PDF) (2 pp, 9K)</a>	95-94-3
<a href="#">2,4,5-Trichlorophenol (PDF) (2 pp, 8K)</a>	95-95-4
<a href="#">4-Bromophenyl phenyl ether (PDF) (2 pp, 6xK)</a>	101-55-3
<a href="#">Acenaphthene (PDF) (2 pp, 11K)</a>	83-32-9
<a href="#">Acenaphthylene (PDF) (2 pp, 10K)</a>	208-96-8
<a href="#">Anthracene (PDF) (2 pp, 11K)</a>	120-12-7
<a href="#">Benzo(g,h,i)perylene (PDF) (2 pp, 11K)</a>	191-24-2

<a href="#">Dibenzofuran (PDF) (2 pp, 8K)</a>	132-64-9
<a href="#">Dioxins/Furans (PDF) (2 pp, 10K) (considered one chemical on this list)</a>	1746-01-6
<a href="#">Endosulfan, alpha (PDF) (2 pp, 11K) &amp; Endosulfan, beta (PDF) (2 pp, 10K) (considered one chemical on this list)</a>	959-98-8
<a href="#">Fluorene (PDF) (2 pp, 12K)</a>	86-73-7
<a href="#">Heptachlor (PDF) (2 pp, 11K) &amp; Heptachlor epoxide (PDF) (2x pp, 11K) (considered one chemical on this list)</a>	76-44-8
<a href="#">Hexachlorobenzene (PDF) (2 pp, 10K)</a>	118-74-1
<a href="#">Hexachlorobutadiene (PDF) (2 pp, 9K)</a>	87-68-3
<a href="#">Hexachlorocyclohexane, gamma- (PDF) (Lindane) (2 pp, 11K)</a>	58-89-9
<a href="#">Hexachloroethane (PDF) (2 pp, 10K)</a>	67-72-1
<a href="#">Methoxychlor (PDF) (2x pp, 10K)</a>	72-43-5
<a href="#">Naphthalene (PDF) (2 pp, 10K)</a>	91-20-3
<a href="#">Pendimethalin (PDF) (2 pp, 9K)</a>	40487-42-1
<a href="#">Pentachlorobenzene (PDF) (2 pp, 9K)</a>	608-93-5
<a href="#">Pentachloronitrobenzene (PDF) (Quintozene) (2 pp, 9K)</a>	82-68-8
<a href="#">Pentachlorophenol (PDF) (2 pp, 10K)</a>	87-86-5
<a href="#">Phenanthrene (PDF) (2 pp, 10K)</a>	85-01-8
<a href="#">Polycyclic Aromatic Compounds (PACs) / PAH Group (PDF) (2 pp, 12K) (as defined in TRI)</a>	
<a href="#">Polychlorinated Biphenyls (PCBs) (PDF) (4 pp, 105K)</a>	1336-36-3
<a href="#">Pyrene (PDF) (2 pp, 10K)</a>	129-00-0
<a href="#">Trifluralin (PDF) (2 pp, 9K)</a>	1582-09-8
<a href="#">Metals and Metal Compounds</a>	
<a href="#">Cadmium (PDF) (2 pp, 11K)</a>	7440-43-9

<a href="#">Lead (PDF) (2 pp, 10K)</a>	7439-92-1
<a href="#">Mercury</a>	7439-97-6

## **Environmentally Preferable Products (EPP)**

### **What is the authority for these requirements?**

E.O.13423 Strengthening Federal Environmental, Energy, and Transportation Management indicates that agencies shall give preference in their procurement programs to the purchase of environmentally preferable products and services, including Electronic Product Environmental Assessment Tool-registered products.

FAR Part 23.7 – Contracting for Environmentally Preferable Products and Services requires agencies to employ acquisition strategies that maximize the utilization of environmentally preferable products and services, based on EPA-issued guidance.

More specifically, FAR 23.703 outlines the following policy objectives under this section. These objectives include:

- Implementing cost-effective contracting preference programs promoting energy-efficiency, water conservation, and the acquisition of environmentally preferable products and services.
- Employing acquisition strategies that affirmatively implement the environmental objectives.
- Maximizing the utilization of environmentally preferable products and services (based on EPA-issued guidance).
- Promoting energy-efficiency and water conservation.
- Eliminating or reducing the generation of hazardous waste and the need for special material processing (including special handling, storage, treatment, and disposal).
- Promoting the use of nonhazardous and recovered materials.
- Realize life-cycle cost savings.
- Promoting cost-effective waste reduction when creating plans, drawings, specifications, standards, and other product descriptions authorizing material substitutions, extensions of shelf-life, and process improvements.
- Considering the use of bio-based products.

### **How does this impact FHWA purchases?**

Purchasing environmentally preferable products should be considered in all FHWA purchases, including those below the micropurchase threshold. Agency personnel should seek to reduce the environmental damages associated with their purchases by increasing their acquisition of environmentally preferable products and services to the extent feasible, consistent with price,

performance, availability, and safety considerations. Environmental factors should be taken into account as early as possible in the acquisition planning and decision-making process. This may include purchases from any of the programs discussed in other sections of the guide, such as the EPA CPG designated product list, or the USDA bio-based product list.

It is important to remember that environmentally preferable purchasing is a shared responsibility between both the program office and the procurement staff.

### **Additional Information:**

EPA established five principles to help agencies identify and purchase EPP products. These principles are the foundation of their EPP acquisition guidance:

1. **Environment + Price + Performance = EPP** - Includes environmental considerations as part of the normal purchasing process.
2. **Pollution Prevention** - Emphasizes pollution prevention as part of the purchasing process.
3. **Life-cycle Perspective/Multiple Attributes** - Examines multiple environmental attributes throughout the product and service's life-cycle.
4. **Comparison of Environmental Impacts** - Compares environmental impacts when selecting products and services.
5. **Environmental Performance Information** - Collects accurate and meaningful information about environmental performance of products and services.

The entire product life-cycle—from resource extraction through manufacturing, transportation, bureau/office, maintenance, usage, and final recycling or disposal—should be considered to the extent possible when evaluating the issues and deciding which product to purchase. Many of the impacts associated with a product come from its manufacturer and disposal—not from the product's use; and, a life-cycle approach is especially important when making cost comparisons between “regular” and “green” products. The green product may have a higher up-front cost, but may become cost effective when the entire life-cycle is considered. An example would be decking or fencing made of plastic lumber from recycled materials. The plastic lumber initially costs more than wood, but it has a much longer lifespan and does not require painting or other maintenance.

A detailed discussion of these EPP principles and product alternatives is available at:

[www.epa.gov/epp/](http://www.epa.gov/epp/).

## **Resolving Conflicts Between Programs**

The challenge in buying a product or selecting a service is to achieve a balance between various factors including cost, availability, resource conservation, environmental benefits, and the personal level-of-effort expended to find a product that best addresses all of these factors. Occasionally, conflicts may arise between the biobased and CPG requirements or other mandatory purchasing programs.

If products are included on both the EPA CPG list and the USDA bio-based items list, there is a choice to be made. The EPA CPG list takes precedence and should be your first choice.

## **Agency Goals**

1. Annually, increase direct purchase of environmentally preferable products and services.
2. By 2011, ensure that requiring officials, purchase card holders, and contracting staff receive appropriate training in green purchasing and FPDS reporting requirements.
3. By 2011, conduct a review of FHWA purchasing programs to determine the need for affirmative procurement programs for recycle product content items.
4. By 2011, all new contracts for transportation, janitorial services, and other operations and maintenance shall include sustainability factors and objectives.
5. By 2011, ensure that all FHWA owned/managed facilities are stocked with recycled-content items including: bathroom tissue, paper towels, and plastic trash bags.
6. By 2011, all new appropriate service contracts contain requirements on sustainability.

## **Training, Tools, and Quick References**

There are a number of on-line resources available in support of green purchasing initiatives. Below are two sources of on-line training that are available, and will support the green procurement training goal:

### **On-line Training:**

- FHWA Purchase Card Training (required for all purchase card holders)
- Defense Acquisition University - CLC 046 - Green Contracting

### **Reference Materials:**

- *What is Green Purchasing Anyway?* (Office of the Federal Environmental Executive)
- Key Web sites related to GPP (attached)



## **Green Procurement Planning (GPP) Reference Materials**

### **Key Web sites Related to GPP**

**Green Products Compilation** created by the Office of the Federal Environmental Executive (OFEE), this is a compilation of the products for which EPA, DOE, and USDA have provided environmental or energy attribute recommendations. Requiring officials can use this database to find all of the designated products in an easy to use series of spreadsheets:

[http://www.fedcenter.gov/Documents/index.cfm?id=11767&pge\\_prg\\_id=20257](http://www.fedcenter.gov/Documents/index.cfm?id=11767&pge_prg_id=20257)

**Environmentally Preferable Products** (<http://www.epa.gov/epp>), including Electronic Products Environmental Assessment Tool (EPEAT) - registered products:

<http://www.epeat.net>.

**Recycled Content Products** - Environmental Protection Agency's "Comprehensive Procurement Guidelines: <http://epa.gov/cpg>.

**Energy Star® products** identified by the Department of Energy and EPA, as well as Federal Energy Management program designated energy-efficient products:

<http://www.energystar.gov>.

**Water-efficient products** - EPA's WaterSense standards:

<http://www.epa.gov/watersense/>.

**Energy from renewable sources:** <http://eere.energy.gov/femp/>.

**Bio-based products** - Department of Agriculture bio-preferred program:

<http://biobased.ocs.usda.gov>.

**Alternative Fuel vehicles and alternative fuels:**

<http://eere.energy.gov/vehiclesandfuels/>.



## OST GPP Request for Waiver Form

*Instructions:* This form is needed only if the item(s) being procured are subject to DOT's Green Procurement Program (GPP).

This form is to be completed by the requirements official (program official) and the contracting officer (CO), as appropriate, when items subject to DOT's GPP are not procured.

The requirements official and CO must check the appropriate justification(s), provide a written explanation, and sign and date the form.

The original form is maintained in the contracting office contract file.

The requirements official must submit a copy of the form to the responsible operations program official.

The contracting officer is responsible for forwarding a copy of each waiver form to the Agency's Environmental Executive (M-1) within 30 days after contract award.

Procurement Request No. \_\_\_\_\_

### 1. To Be Completed By Contracting Officer

Products containing recovered materials and meeting DOT's preference standards for the following designated items:

Were not obtained because (FAR 23.405):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Items/products could not be competitively acquired within a reasonable period of time.

Items/products could not be obtained at reasonable prices.

Items/products did not meet all reasonable performance standards in the specifications.

\_\_\_\_\_  
Contracting Officer

\_\_\_\_\_  
Date

### 2. To Be Completed By Requirements Official

Products containing recovered materials and meeting DOT's preference standards for the following designated items:

Were not obtained because (FAR 23.405):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Items/products could not be competitively acquired within a reasonable period of time.

Items/products could not be obtained at reasonable prices.

Items/products did not meet all reasonable performance standards in the specifications.

\_\_\_\_\_  
Requirements Official's Signature

\_\_\_\_\_  
Date

