



OPERATIONAL SERVICES DIVISION

SERVING PUBLIC BUYERS AND VENDORS OF THE COMMONWEALTH OF MASSACHUSETTS



## Operational Services Division

# Environmentally Preferable Products (EPP)

Strategic Sourcing Services

# EPP Procurement Program Annual Report Fiscal Year 2016

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# Executive Summary



The primary goal of the Commonwealth of Massachusetts’ Environmentally Preferred Products Procurement Program (EPP) is to leverage the Commonwealth’s purchasing power to procure goods and services that have a lesser or reduced negative effect on human health and the environment when compared with competing products or services that serve the same purpose. Examples include products that:

- Contain recycled materials
- Minimize waste
- Conserve energy and/or water
- Consist of fewer toxic substances
- Reduce the amount of toxic substances disposed or consumed
- Protect open-space
- Lessen the impact to public health

2016 marks the 21<sup>st</sup> year of the EPP Program, which earned three national awards during Fiscal Year 2016 (FY2016) in recognition of our efforts to advance sustainable purchasing in the Commonwealth.

The Sustainable Purchasing Leadership Council (SPLC)<sup>1</sup> honored the EPP Program with an overall “Best Business Case” award for Sustainable Purchasing, which is given to the organization that best demonstrates the

business value of a sustainable purchasing program, and a second award recognizing the efforts and innovation to advance greener cleaning products through Statewide Contract FAC85. The third award was from the Green Electronics Council<sup>2</sup>, which recognized our efforts to require registration of all computers and copier purchases into the Environmental Purchasing Electronics Tool (EPEAT), a comprehensive global environmental rating system for electronics that helps buyers evaluate, compare, and select desktop computers, tablets, and monitors based on their environmental attributes. The three awards recognize Massachusetts’ efforts to expand the breadth and quality of EPP choices on Statewide Contracts (SWCs), providing an ever-increasing number of public purchasers with options to help drive prominent changes toward more sustainable business practices in the marketplace.

Since the EPP Program’s inception, thousands of EPPs have been incorporated into more than 50 SWCs and the state’s purchases of these goods and services have grown from \$5 million in 1994 to nearly \$300 million in FY2016<sup>3</sup>. This report summarizes achievements during FY2016. The accomplishments document progress made by the EPP Program in tracking purchases made by SWC users. The data indicates that EPPs are an integral part of our contracts and have proven to provide value propositions to contract users by saving the Commonwealth millions of dollars per year through the procurement of EPPs.

## Summary of Key FY2016 Accomplishments

The EPP Program calculated close to \$300 million in EPP spending for FY2016 from SWCs (see footnote #3 for discussion of a calculation change for FY2016). Additional cost savings and environmental benefits from purchasing EPPs on SWCs in FY2016 include:

- Achieving nearly \$23 million of estimated savings, primarily from purchases of energy-efficient products.

<sup>1</sup> The Sustainable Purchasing Leadership Council (SPLC) is a national non-profit that convenes public and private buyers, suppliers, and public interest advocates to develop programs that simplify and standardize sustainable purchasing efforts by large organizations [www.sustainablepurchasing.org](http://www.sustainablepurchasing.org).

<sup>2</sup> The Green Electronics Council is an international non-profit that advocates for sustainable information technology products and oversees the EPEAT registry [www.greenelectronicscouncil.org](http://www.greenelectronicscouncil.org).

<sup>3</sup> In past years, the EPP spend analysis included EPP spending reported by the Massachusetts Department of Transportation. Beginning in FY2016 and in future EPP Reports, the EPP spend will include only those purchases made directly from SWCs, as provided in vendor reports.

- Reducing approximately 160,000 metric tons of carbon equivalent (MTCE<sup>4</sup>), achieved by purchasing products that are energy-efficient and those that contain post-consumer recycled content. This is equal to removing 126,231 passenger vehicles from the road.
- Diverting an estimated 53,781 tons of waste from disposal to recycling, which is equal to conserving the annual energy consumption of 10,634 households.

These calculations apply to certain products for which there are either cost savings or environmental benefits calculators. Total estimated savings and environmental benefits would be significantly higher if vendor reported data more accurate and if calculators were available for all products and services. The measures reported demonstrate the immense value of the EPP Program and helps confirm the business case for supporting EPPs.

**Table 1:  
Comparison of FY2015 and FY2016 Savings Calculations, Reduction in Metric Tons of Carbon Equivalent, and Tons of Waste Diverted**

	FY2015	FY2016
COST SAVINGS	\$28 M	\$23 M
REDUCTION IN METRIC TONS OF CARBON EQUIVALENT (MTCE)	190,686 MTCE	160,773 MTCE
WASTE SENT FOR RECYCLING	19,222 TONS	53,781 TONS

In addition, the following was achieved in FY2016:

- **EPP Policy, Guidance, and Training:** The EPP Program updated its EO 515 policy guidance, which provides general information and documents the requirements for Commonwealth Executive Agencies to integrate EPPs into their procurement process. The EPP Program continued to provide assistance to Massachusetts’ contract users in their purchasing decisions by updating the [Environmentally Preferable Products and Services Guide](#), revising the EPP website, and highlighting different EPPs in contracts to targeted users through social media and other communication methods. OSD Strategic Sourcing staff was trained on sustainable procurement and the EPP Program now participates in OSD’s five-day Strategic Sourcing Certificate Program training for Executive Department purchasers and provided input on material for a one-day overview class. The EPP Program also worked with OSD’s Strategic Sourcing Services Team Leads (SSSL) in researching, evaluating, and awarding five SWCs with EPPs. In addition, the EPP Program worked with other states and national organizations to explore and promote the use of EPPs. Most significantly, they participated on the National Association of State Procurement Officials (NASPO) Green Procurement Workgroup and helped finalize a technical assistance grant program available to member states for seed funding for green purchasing projects.
- **Fuel Efficiency Standards for State Fleet:** OSD’s Office of Vehicle Management (OVM) and the EPP Program, in collaboration with the Massachusetts Department of Energy Resources (DOER) and the Massachusetts Department of Environmental Protection (MassDEP), drafted Fuel Efficiency Standards for State Fleet to fulfill the requirements of Chapter 169, Section 1, of the Green Communities Act<sup>5</sup>. The standards would be approved in FY2017.
- **EPP Furniture Project:** OSD partnered with the Center for Environmental Health (CEH)<sup>6</sup>, which has done extensive scientific work on flame retardant chemical research, to assist in identifying environmentally preferable furniture on SWC. OSD surveyed vendors and manufacturers on the statewide furniture contract regarding their product lines, identified more than 350 lines of furniture that were considered environmentally preferable, and published the findings on the [OSD EPP Furniture webpage](#). The framework developed has been used and reviewed by other states and federal agencies, and provided information for a multi-state workgroup facilitated by CEH to advance healthier furniture in procurement. CEH has since published numerous guidance documents and drafted specifications for states<sup>7</sup>.
- **EPP Maintenance, Repair, and Operations Project:** The EPP Program applied for and received a \$15,000 Green Technical Assistance grant from NASPO to identify and integrate EPP Specifications into OSD’s Facilities Maintenance, Repair, and Operations (MRO) Contracts. Much of the research was used to advance EPPs in the re-bid of the NASPO ValuePoint<sup>8</sup> Facilities Maintenance Repair and Operations contract.

<sup>4</sup> MTCE is an international unit of measure used to compare the emissions from various greenhouse gases on the basis of their global warming potential, by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

[http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Carbon\\_dioxide\\_equivalent](http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Carbon_dioxide_equivalent)

<sup>5</sup> Chapter 169, Section 1 of “An Act Relative to Green Communities” <https://malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter169>

<sup>6</sup> <http://www.ceh.org/>, CEH is a national non-profit dedicated to identifying and eliminating toxic chemicals that pose the greatest threats to human health and the environment

<sup>7</sup> Center for Environmental Health, Resources Flame Retardants and Beyond: <http://www.ceh.org/campaigns/flame-retardants/resources/>

<sup>8</sup> NASPO/ValuePoint is the cooperative purchasing arm of the National Association of State Procurement Officials [www.naspovaluepoint.org](http://www.naspovaluepoint.org)

- **Toxics Reduction Task Force:** The EPP Program Director co-chairs the Toxics Reduction Task Force (TRTF), an inter-agency Commonwealth task force set up to assist with implementing EO 515<sup>9</sup>. In FY2016, the Task Force continued to consult on issues related to environmentally preferable cleaning products on the FAC85 contract and engage the US EPA's Safer Choice Program in a discussion to explore changes that would enable the SSST to accept Safer Choice products in all contract categories on our green cleaning products contract, FAC85<sup>10</sup>. In addition, the TRTF reviewed and approved an alternative products request to be added to the contract, consulted on the EPP Furniture project, and the re-bid of the Integrated Pest Management contract.

## Looking Ahead

The EPP Program recognizes that it has been fortunate to have the top-down support of OSD's leadership and various agency heads, dedicated and passionate Task Force member agencies, and a network of states, organizations, and individuals across the U.S. that are interested in pursuing similar goals. Investment in EPPs, especially those focused on energy efficiency, generally is more cost-effective than investing in power plants, gas or oil heating to fuel buildings. The combined effort of all levels of government, in partnership with the private sector, is an essential dynamic if a financial incentive is to be provided to move industry and markets toward greener innovation.

Over the past 21 years, the EPP Program has documented the business case for sustainable purchasing by providing solid examples of cost savings and benefits to the environment and public health. OSD and the EPP Program staff continue to develop innovations to further advance these practices. As the Program considers the areas of focus for FY2017, several initiatives take priority:

- Explore development of a statewide policy and contract for Enterprise Printing for Executive agencies, which integrates environmental specifications and policies to reduce cost, energy, and waste;
- Finalize and publicize findings from the EPP Furniture Project;
- Develop environmental specifications for Battery Powered Lawn Equipment;
- Review existing sanitizers and disinfectant specifications approved by the TRTF and develop specific criteria for an alternative approval process;
- Improve outreach to buyers and vendors regarding EPPs through OSD's *Buy The Way* newsletter, guides, fact sheets, and social media; and
- Support statewide programs to promote other environmental initiatives, such as the Leading By Example Program, many of the energy efficiency programs in place at the Department of Energy Resources (DOER) and the Department of Capital Asset Management and Maintenance (DCAMM) that are targeted to state facilities, and recycling initiatives at the Department of Environmental Protection (DEP).

The EPP Program will continue to:

- Work with Strategic Sourcing Services Staff to research and identify additional products to include in new RFRs and strengthen specifications for re-bids, train staff on EO 515, and participate in buyer training classes;
- Participate with OSD staff and vendors to streamline and improve EPP tracking through vendor reports; and
- Partner with national organizations such as the the Sustainable Purchasing Leadership Council (SPLC), the Responsible Purchasing Network (RPN), the National Association of State Procurement Officials (NASPO) and NASPO/ValuePoint, the Center for Environmental Health (CHE), the Green Electronics Council (GEC), and others, to pool resources and work together to identify common areas for standardization to define sustainable purchasing and how it is guided, measured, and rewarded.

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<sup>9</sup> Toxics Reduction Task Force, <http://www.mass.gov/anf/budget-taxes-and-procurement/procurement-info-and-res/procurement-prog-and-serv/epp-procurement-prog/toxics-reduction-task-force.html>

<sup>10</sup> See [EPP Program Annual Report 2015](#) for additional information on the discussion with EPA's Safer Choice Program.

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# EPP Program Overview

The EPP Program is administered by the Operational Services Division (OSD) with the support of the Executive Office of Environmental Affairs (EOEEA) and the Massachusetts Department of Environmental Protection (DEP). The program's mission is to promote the purchase of EPPs to state and local agencies and departments throughout the Commonwealth for the purpose of fostering the practice of responsible purchasing choices that are cost effective and reduce the impact of such purchases on public health and the environment. The goal is to leverage the Commonwealth's purchasing power to reduce the environmental and health impacts of the state government's activities, foster markets for products with recycled content, and promote the purchase of those goods and services that conserve energy, water, and other resources while reducing waste and the use of toxic substances.

## Background

In early 2000, the Commonwealth's Department of Environmental Protection (DEP) provided a grant to the Operational Services Division (OSD) to staff a position that would help identify opportunities to use recycled content products in SWCs and use the State's purchasing power to help stimulate market demand for products with recycled content. Massachusetts is one of the few states that supports a dedicated staff person in the procurement program to facilitate EPP and service purchases. The EPP Program was very successful at integrating recycled content specifications into SWCs and, in 2009, Executive Order (EO) #515, Establishing an Environmental Purchasing Policy was issued to help the Commonwealth's Executive Departments further expand their environmentally preferable purchasing footprint. The EO recognized the success of the EPP Program for promoting purchases of products containing recycled content and shifted the priorities of the EPP Program significantly by placing a stronger focus on reducing the use of toxic substances within the State's Executive Departments' operations. The efforts led by Massachusetts over the last 21 years have helped raise the bar on the quality, cost, and availability of EPPs and also have driven prominent changes in the marketplace to incorporate more sustainable business practices in public procurement.

Today the EPP Program administers EO 515, providing overall program management, establishing environmental procurement goals where appropriate, and working with Executive Agencies to ensure that the EO requirements are met. The EPP Program also collaborates with the Executive Office of Environmental Affairs and other agencies to expand the number of SWCs for EPPs, issues agency guidance, monitors compliance, promotes the benefits and increased use of EPPs, and measures progress through this annual progress report. Additionally, the EPP Program director partners with many of OSD's Strategic Services Sourcing Teams (SSSTs) responsible for setting up SWCs to integrate environmental specifications into SWCs. To date, more than 50 SWCs include environmental criteria.

Massachusetts also collaborates with national organizations, other governments, and industry representatives across the U.S. to increase access to and the numbers of green products and services in our SWC contracts.

As part of the largest procurement group in the nation, federal, state, and local governments use the clout of their buying practices to direct manufacturers to make more reasonably priced products that do less harm to the environment and public health. By purchasing EPPs, we look to reduce damage to the environment and/or public health beginning with the extraction of raw materials and the manufacture of products, to their use and ultimate disposal. Purchasing decisions affect our local environment and the health of our citizens and workers, as well as the global community.

OSD practices best value contracting, which considers many things when procuring goods and services, rather than focusing only on the sticker price. For EPPs, this includes considerations on costs of materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, and maintenance or disposal of the product or service to understand its true cost. There are many EPPs available today that are less expensive than their conventional counterparts but serve the same

purpose (e.g. remanufactured toner cartridges, janitorial paper products, energy-efficient equipment/appliances). Other EPPs are equal to or comparable in cost (e.g. carpet, cleaning products, janitorial paper products, and remanufactured antifreeze, oil, and traffic cones). A third segment of EPPs may cost more at the time of purchase, but often have a short "payback period" after which time they represent a significant ongoing cost savings in the maintenance, operation, and/or disposal of the product (e.g. Light Emitting Diode (LED) bulbs, plastic lumber, battery powered lawn equipment, and integrated pest management services).

The EPP Program works with the Strategic Sourcing Services Leads (SSSLs) within OSD and their interagency teams to:

- Promote and track the purchase and use of EPPs on SWCs;
- Assist in researching information related to a product’s market availability and cost;
- Provide EPP specification language;
- Establish minimum environmental standards for products and services procured by agencies wherever feasible and practicable; and
- Market EPPs to purchasers about responsible purchasing choices available through the contracting process.

In the interest of supporting common goals and avoiding duplication of effort, the EPP Program consults and shares resources with the EOEEA, the DEP, the DOER [including the Leading By Example (LBE) Program, the Office of Technical Assistance and Technology (OTA), Green Communities, and Clean Cities Programs], and the Department of Public Health (DPH).

Beyond Massachusetts, the EPP Program collaborates with national purchasing organizations and works with industry manufacturers and suppliers to identify and market the environmental, social, and economic benefits associated with EPP purchases in addition to acknowledging emerging technologies that represent new opportunities for resource conservation and long-term cost savings.

Additional details on the EPP Program may be found on the EPP website at [www.mass.gov/epp](http://www.mass.gov/epp).

## Key Accomplishments in FY2016

### Achieved nearly \$23 Million in Cost Savings

Each year, the EPP Program reviews and documents purchases of environmental products and services by state agencies and other public entities eligible to use Massachusetts’ SWCs. A number of reports are used to calculate the numbers of products sold and sales amounts, and publically available on-line tools are used to quantify the environmental and health benefits and dollar savings relative to EPP purchases. A full explanation of these reports and tools may be found in the *Tracking EPP Purchases on Statewide Contracts in FY2016* section of this report. Table 2 estimates nearly \$23 million in cost savings was achieved in FY2016 through reduced energy use, labor costs, or initial purchase costs associated with using compact fluorescent light bulbs (CFLs); LEDs; desktop, laptop, and tablet computers, and monitors; and remanufactured printer toner cartridges. Please note that much of the energy savings will accrue in subsequent years, affording significantly more cumulative cost savings to the Commonwealth.

<b>Table 2: FY2016 Estimated Cost Savings Summary for CFLs; LEDs; Computers, Laptops, Tablets, and Monitors; and remanufactured Printer Cartridge Purchases DATA: Vendor Reports</b>	
<b>Energy Efficient Lighting: CFLs and LEDs</b>	
Savings: less energy use	\$14,901,564
Savings: reduced labor	\$4,134,520
<b>Computers, Laptops, Tablets, and Monitors</b>	
Savings: less energy use	\$915,088
<b>Remanufactured Printer Cartridges</b>	
Savings: lower purchase cost	\$393,975
<b>TOTAL ESTIMATED COST SAVINGS</b>	<b>\$22,541,089</b>

It is important to note that there are a number of harder to quantify cost-savings opportunities that may contribute to the value proposition of EPPs, as well. These include operational efficiencies, by using products that consume less energy,

water, or other resources; maintenance efficiencies, by using durable products that last longer and require less periodic upkeep, as with plastic lumber and LED lighting; waste efficiencies, such as using less packaging or unnecessary material which would later have to be stored, handled, and disposed of at a cost; and lastly, eliminating toxic substances and/or substituting toxic substances with more benign chemicals and/or technologies that perform well. This effort often simplifies the number of purchases needed, avoids costly equipment and supplies needed to handle harsh materials, and serves to promote healthier work environments while helping to reduce the risk of worker injury. Details regarding the specific areas where we were able to achieve cost savings are noted below:

**Energy Efficient Lighting: Estimated \$19 Million Savings in Energy Costs and Labor Reductions**

The EPP Program used EnviroCalc to determine the cost savings for using energy-efficient lighting. Designed by OSD staff many years ago, this tool is pre-populated with formulas from other online calculators to automatically determine the savings in energy usage, costs, and reductions in labor just by entering the numbers of products and types into the calculator. CFLs and LEDs by varying wattage are available in the tool. The calculated cost savings includes purchases made through a DOER initiative to assist state facilities in switching to more energy efficient lighting options.

**Energy Efficient Computers, Laptops, and Monitors: Estimated \$915,000 in Energy Cost Savings**

The EPP Program calculated from vendor reported data the number of energy-efficient computers, laptops, tablets, and monitors and measured energy savings using the online ENERGY STAR® Calculator<sup>11</sup> developed by the U.S. EPA and the U.S. Department of Energy to estimate the energy consumption and operating costs of these types of office equipment. New ENERGY STAR-qualified products are compared to the average non-certified new products. The Savings Calculator for ENERGY STAR Qualified Office Equipment<sup>12</sup> tool contains an estimated utility rate for each state.

*In FY2016, the EPP Program quantified through vendor-reported data nearly 85,000 EPEAT registered computers, laptops, tablets, and monitors were purchased through SWCs.*



The Commonwealth requires computers, laptops, tablets, and monitors to be listed on the Electronic Product Environmental Assessment Tool (EPEAT) registry and identified as such in the sales reports. The registry verifies that products meet multi-attribute environmental performance standards for electrical products, including how they manage substances used to make products, product packaging, design, product longevity, and end-of-life management. The registry also includes a lifecycle assessment and corporate responsibility component. In FY2016, the EPP Program quantified through vendor-reported data nearly 85,000 EPEAT registered computers, laptops, tablets, and monitors were purchased through SWCs.

**Remanufactured Toner Cartridges: Estimated \$393,975 Savings for the Commonwealth**

OSD and the Commonwealth’s Information Technology Division collaborated in 2012 to issue the [ITD/OSD Enterprise Cartridge Acquisition Policy](#), which requires all Executive Agencies to purchase remanufactured laser printer toner cartridges whenever they are available. The policy outlined an Executive Agency goal of increasing the use of remanufactured laser print toner cartridges to 40% by 2013, with a progressive 10% increase each year, ultimately reaching an 80% usage goal.

Remanufactured toner cartridges are produced from recycled empty toner cartridges that are disassembled, inspected, cleaned, reassembled, refilled, and quality assurance tested to ensure optimal performance. This requirement also applies to Non-Executive Agencies using Commonwealth Information Technology Capital Funds.

<sup>11</sup> Savings Calculator for ENERGY STAR Qualified Office Equipment may be found here: <https://energy.gov/eere/femp/energy-and-cost-savings-calculators-energy-efficient-products>



Remanufactured laser printer toner cartridges must be guaranteed to meet Original Equipment Manufacturer (OEM) standards and be certified to meet all test methods developed and used by the printer cartridge industry. All vendors offer cartridge recycling at no cost to customers and some may offer discounts for the return of cartridges.

Since 2012, the EPP Program has worked with agencies to increase usage, provided guidance, developed case studies, and reports annually on the status of Executive Agencies in meeting the goal. Executive Departments' usage of remanufactured toner cartridges increased by two percent – from 32% in FY15 to 34% in FY16. The agencies with the top 10 printer toner cartridge purchases collectively met a 41% remanufactured purchasing goal for the year and account for more than 60% of all purchases<sup>13</sup>. Since 2014, Executive Agencies have saved more than \$1.2 million by using remanufactured toner cartridges.

*Since 2014, Executive Agencies have saved more than \$1.2 million by using remanufactured toner cartridges.*

The EPP Program estimated, from analyzing vendor reported data, approximately 14,000 remanufactured laser printer toner cartridges were purchased in FY2016. Averaging the cost of these cartridges and comparing the cost to the similar average cost of an Original Equipment Manufacturer (OEM) cartridge, the EPP Program estimated savings of nearly \$400,000 for executive agencies that switched to remanufactured laser printer toner cartridges. This estimate does not include savings associated with the return of used cartridges or credits or discounts provided on future purchases.

In FY2016, the main contract for copier supplies was rebid to *ITC66: Copiers, Printers, Scanners and Related Devices and Services Contract*. The new contract makes it easier for vendors to offer remanufactured products and requires all cartridges to be labeled by the vendor – which allows for easier tracking. ITC66 also includes language that warranties and service contracts may not preclude the use of remanufactured or generic supplies and prohibits vendors from communicating to any end user that a product selected on this contract should not be used, is inconsistent, or will cause a problem. The new contract also requires vendors to track cartridge failure rates.

The new contract includes five vendors that provide remanufactured toner cartridges and the ITC66 [Contract User Guide](#) includes strong language advising that all Executive Departments are required to follow the Enterprise Printer Cartridge Acquisition Policy and that “such agencies are required to purchase remanufactured laser print toner cartridges when available.” The kick-off training for buyers and vendors also included a presentation regarding the policy.

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## Documented Environmental and Health Benefits

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While cost savings are an important focus for purchasing staff at any level, products that offer benefits to human health and the environment have become increasingly important considerations in the bidding process. Unfortunately, these factors are much harder to quantify and incorporate into decision making.

Commonly cited benefits include reduced air pollution and water emissions, materials and energy efficiency, less waste in landfills, reductions in hazardous and toxic substances, and increased durability. Often, we can't place a specific value on the benefits without extensive study. However, there are some online tools that help to measure greenhouse gas (GHG) emissions reductions, typically expressed in metric tons of carbon equivalent (MTCE) from either the use of products containing recycled content, energy-efficient products, or by diverting materials from disposal to recycling facilities. These tools provide a way to evaluate products as contributors to a warmer climate.

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<sup>13</sup> ITD/OSD Enterprise Cartridge Acquisition Policy – 2016 Goal Update, issued 8/21/2017 to Gary Lambert, Assistant Secretary for Operational Services, and Mark Nunnally, Secretary of Executive Office of Technology Services and Security. This update reviewed vendor reported data in FY2016, and calculated savings and usage.

## Recycled Content and Energy Efficient Products

The EPP Program has reviewed vendor sales reports and calculated some of the environmental benefits from purchasing recycled and remanufactured products, CFLs, and LEDs, and energy-efficient office products using online tools (see listed below):

**Table 3: FY2016 Estimated Environmental Benefits Summary from Purchasing Recycled and Remanufactured Products**

(includes post-consumer recycled content office papers; janitorial/food service paper goods; plastic products; recycling containers, compost bins, trash can liners; remanufactured toner cartridges; recycled mulch; and remanufactured antifreeze/oil)	
<b>Environmental Benefit Estimate</b>	
Weight of Material Recycled	53,782 tons
Landfill space savings	169,306 cubic yards
Wood saved	354,024 trees
Energy saved	479,580 million BTUs
Carbon dioxide emissions	84,979 tons
<b>Environmental Benefit Equivalent to....</b>	
Annual Solid Waste Generation of:	25,268 households 8,465 loaded garbage trucks
Energy content of:	82,686 barrels of oil
Emissions from vehicles driven for one year:	16,687 vehicles
<i>Compiled from Vendor Reported Data and used EnvioCalc<sup>14</sup></i>	

**Table 4: FY2016 Estimated Environmental Benefits Summary from Purchasing CFLs and LEDs**

<b>Environmental Benefit Estimate</b>	
Electrical energy savings	122,057,431 KWh
Carbon dioxide emissions reduced	66,121 MTCE
<b>Environmental Benefit Equivalent to....</b>	
Annual electricity usage of:	10,858 homes for one year
Emissions from vehicles driven for one year:	14,305 vehicles for one year
<i>Compiled from Vendor Reported Data and EPA's Greenhouse Gas Equivalencies Calculator</i>	

**Table 5: Estimated Environmental Benefits Summary from Purchasing Energy Efficient Office Products**

(including Computers, Laptops, Tablets, Monitors, Multifunction Devices, Printers, Copiers, Fax Machine,s and Scanners)	
<b>Environmental Benefit Estimate</b>	
Electrical energy savings	8,860,852 KWh
Carbon dioxide emissions reduced	2509 MTCE
Air emissions reduced	22,593 metric tons
Water emissions reduced	45.11 metric tons
<b>Environmental Benefit Equivalent to....</b>	
Annual electricity usage of:	2,635 homes for one year
Emissions from vehicles driven for one year:	3,381 vehicles for 1 year
Solid Waste Generation	122.75 homes for one year
<i>Compiled from Vendor Reported Data and EPA's Greenhouse Gas Equivalencies Calculator</i>	

## Waste Diversion

The Commonwealth saves money through avoided disposal costs by diverting materials from disposal facilities (landfill and waste to energy) to recycling and composting facilities. Recycling also helps to reduce greenhouse gas emissions that contribute to global climate change by avoiding energy used and pollution released during the extraction of natural


<sup>14</sup> EnviroCalc was designed by OSD staff and the tool is pre-populated with formulas from other online calculators to automatically determine the savings in energy usage, cost, and reduction in labor. Users simply enter the numbers of products into the calculator, which is available for download and use from the EPP Program website at [www.mass.gov/epp](http://www.mass.gov/epp).

resources such as timber, water, and minerals and using recycled feedstocks in the manufacturing process.

OSD collects vendor-reported information regarding materials disposed of, recycled, and composted. However, reported information is often not complete; therefore it is believed that more diversion is taking place than is reported. The EPA’s Waste Reduction Model (WARM)<sup>15</sup> was used to estimate equivalent environmental benefits from diverting selected materials to recycling as shown in Table 6. In FY2016, the EPP Program documented more than 50,000 tons of materials diverted from disposal to recycling through the Solid Waste and Recycling Contract (FAC86: Solid Waste and Recycling). Tonnage breakdown and environmental benefits are as follows:

*In FY2016, OSD documented more than 50,000 tons of materials diverted from disposal to recycling through the Solid Waste and Recycling Contract*

**Table 6: FY2016 Reported Recycled Materials and Estimated Environmental Benefits**

Recycled Material	Tons	Environmental Benefit Equivalent to....
Street sweepings	22,857	<ul style="list-style-type: none"> <li>• Reduction in 14,696 MTCE</li> <li>• Removing annual emissions from 10,634 Passenger Vehicles</li> <li>• Conserving 5,683,844 Gallons of Gasoline</li> <li>• Conserving 271 Railway Cars of Coal</li> </ul> <p><i>Compiled from vendor reported data from FAC86: Solid Waste and Recycling SWC and using US EPA’s WARM Model to calculate environmental benefits</i></p> 
Metal	51,63	
Yard waste	4,882	
Document Destruction (paper)	4,726	
Asphalt, Brick, Concrete	3,949	
Construction and Demolition Debris	3,163	
Single Stream Recyclables (mixed paper, comingled containers)	2,301	
Comingled Containers (bottles and cans)	697	
Wood	550	
Paper	506	
Food waste	482	
Cardboard	466	
Mixed Paper	302	
Tires	272	
Carpet	31	
Plastic	19	
Electronics	9	
Mattresses	5	
Vegetable oil	4	

## EPP Policy, Guidance, Outreach and Training

In FY2016, the EPP Program updated its guidance policy document, the [Environmentally Preferable Products \(EPPs\) Procurement Program General Information, Requirements and Guidance](#), which provides general information and requirements to Commonwealth buyers about integrating EPPs into their procurement processes. In addition, it clarifies that certain SWCs for goods and services have minimum mandatory specifications for recycled content, energy efficiency, water conservation, toxic use reduction, and waste prevention, helping buyers meet EPP requirements of EO 515. The EPP Program compiled all minimum mandatory and desirable specifications for SWCs issued through OSD or departmental contracts into the [Minimum Environmentally Preferable Products and Services Guide](#), a document that is updated as changes are made to the requirements.

The EPP Program also trained all Strategic Sourcing Services Staff on the new EPP Policy and will train all new staff going forward. The EPP Program updated the section on environmental procurement in OSD’s five-day Strategic Sourcing Certificate training program for state purchasers and participated in each of the course offerings. In addition, the EPP Program provided input on material for a one-day strategic sourcing overview class.

There are thousands of EPP products available in more than 50 SWCs. The EPP Program updates the [Environmentally](#)

<sup>15</sup> EPA created the Waste Reduction Model (WARM) to help solid waste planners and organizations track and voluntarily report greenhouse gas (GHG) emissions reductions from several waste management practices. <http://epa.gov/epawaste/conserve/tools/warm/index.html>

[Preferable Products and Services Guide](#), which includes a number of resources for public purchasers, such as guidance on integrating green specifications into bids and summaries of all products and services considered environmentally preferable in our SWCs.

The EPP Program supports the goals of the Clean Cities Program, Green Communities Program, and the Leading by Example Program and provides information to these programs related to the availability of EPPs on SWCs. In addition, the EPP Program contributes to OSD's annual MASSUYS EXPO held in the spring. This is the Commonwealth's largest business to government event, which brings together thousands of buyers to meet with SWC vendors.

The EPP Program worked closely with the OSD Marketing, Communication, and Events team (MCE) to increase marketing of EPP information to our customers/constituents. This included:

- **Buy the Way (OSD newsletter):** The EPP Program provides content to the MCE unit to include an EPP highlight on a regular basis.
- **EPP Blog:** The MCE unit assisted the EPP Program in writing two blog posts – one highlighting the FAC85 Kick-off event and the second reviewing EPPs that may assist with winter preparation.
- **Tweets:** The EPP Program provided information for MCE to send numerous environmentally centered tweets from Happy Earth Day to information on training classes related to EPP concerns.

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## Fuel Efficiency Standards for State Fleets

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OSD, in collaboration with DOER and DEP, adopted a Fuel Efficiency Standard for State Fleets in FY2016, which went into effect in August 2016 (FY2017), to help fulfill the requirements of Chapter 169, Section 1, of the Green Communities Act. Highly efficient gasoline vehicles or those that use alternative fuels may reduce greenhouse gas emissions, minimize tailpipe emissions of other pollutants, and reduce the total cost of ownership. The Standard requires the Commonwealth's executive agencies to purchase more fuel efficient vehicles and vehicles using advanced technologies, such as idle reduction equipment and after-market electric conversion technologies, and provides flexibility in meeting these requirements in recognition of diverse agency needs and changing technologies. OSD, DOER, and DEP work collaboratively with agency fleet managers to ensure compliance with the Standard and provide technical assistance and guidance as required. The team created a new [Vehicle Request Spreadsheet](#) for executive agencies to use when requesting to purchase or lease new vehicles from the current statewide light duty and passenger vehicle contract (VEH98). This important step now integrates fuel efficiency into the decision-making process for all executive agency vehicle purchases.

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## EPP Furniture Project

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As reported in the calendar year (CY) [2016 TRTF Annual Report](#), flame retardant chemicals<sup>16</sup> in furniture became a target issue for the TRTF, and led to a one year project that resulted in the development of a framework for buyers to evaluate EPP Furniture on OFF38, the SWC for furniture.

The EPP Program reached out to the Center for Environmental Health, a national leader in flame retardant health issues and author of [Kicking Toxic Chemicals Out of the Office; An Easy Guide to Going Flame Retardant Free \(July 2015\)](#), to help identify ways to encourage purchases of healthier furniture. Together we developed a resource to support buyers and help them make environmentally informed choices when purchasing furniture from the contract. A survey was sent to all vendors and many of the furniture manufacturers, requesting them to identify chemicals of concern, in addition to identifying whether their lines of furniture met a number of third-party documented environment certifications or other

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<sup>16</sup> Flame retardants are semi-volatile organic compounds used in commercial and consumer products to meet flammability standards. One such flame retardant, organohalogens, including polybrominated diphenyl ethers (PBDEs), has been added to polyurethane foam in furniture for many years to meet the flammability standards.

environmental standards applicable to furniture, that may be of interest to large volume buyers who specify these certifications or standards in their bids.

The chemicals of concern include:

- Formaldehyde and other Volatile Organic Compounds (VOCs) emissions
- Antimicrobials
- Flame retardants
- Polyvinyl chloride (PVC)
- Per- and poly-fluorinated chemicals used as stain/water/oil resistant treatments

Currently, these chemicals are not restricted from use on the furniture SWC, but they are considered to be toxic or hazardous and have documented indoor air quality, environmental, and/or health concerns<sup>17</sup>.

All information from vendors and manufacturers was compiled into a table which includes nearly 900 lines of furniture, of which 350 were determined to be “environmentally preferable.” A peer reviewed guidance document was developed that describes the chemicals of concern typically used in the furniture industry and a number of the relevant certifications and standards that have been used to measure environmental performance of furniture, in addition to providing alternatives/recommendations for those seeking to minimize exposure to the above-mentioned substances in furniture.

CEH convened an eastern states Flame Retardant/Furniture workgroup and highlighted the project findings. CEH reported on the workgroup conference calls that New York State and the City and County of San Francisco used the findings to advocate for more stringent specifications for their furniture contracts. The EPP Program presented findings of the project at the Sustainable Purchasing Leadership Council’s Annual Meeting in 2016.

**Selecting Healthier Furniture Options**

Environmental attributes vary by product type, product line, and by manufacturer. Below are some topics to discuss with the vendor that may help in selection of the healthier furniture options:

1. **Chemicals/Products of Concern:** Ask the vendor to assist in selecting options without indoor air contaminants, including formaldehyde and other Volatile Organic Compounds (VOCs), flame retardant chemicals, fluorinated stain treatments, antimicrobials, and PVC (polyvinyl chloride). If flame retardants are required, specify the use of “non-halogenated” flame retardant chemicals, meaning they don’t contain bromine or chlorine.
2. **Fabric Choice:** Ask the vendor to help identify fabrics free of fluorinated stain treatments, antimicrobials, PVC, and/or flame retardants. Proper fabric choice is essential to ensure a healthier product.
3. **Recycled content:** Ask the vendor if recycled content is used in any component of the product and, if so, ask to find out the source of the recycled content and confirmation that it doesn’t contain any of the identified chemicals of concern. While the use of recycled content generally is a positive environmental attribute, the use of recycled content plastics has the potential to introduce one or more of the chemicals of concern into the product.
4. **Verification:** Ask vendor for verification of third party certifications or compliance to any claimed attributes.

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## EPPs in Maintenance, Repair and Operations Contracts

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The Commonwealth was awarded a \$15,000 Green Technical Assistance grant from NASPO to develop recommendations for EPP specifications and sustainability-related language to include in its Facilities Maintenance, Repair and Operations (MRO) SWCs. Typically, MRO contracts are large spend contracts and include a number of products and range of categories that large hardware box stores would supply. To consult on the grant, OSD worked with the Responsible Purchasing Network, a national non-profit organization that develops tools to help government agencies and businesses purchase “green” products.

A matrix consisting of MRO product categories was compiled and, for each category, third-party certifications and standards (e.g., federal government recycled content guidelines) were explored and added. In addition, possible EPP specifications were included, which came from existing OSD SWCs or other researched contracts. Recommended EPP language was provided to the sourcing teams for inclusion in bids.

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<sup>17</sup> See the [Guidance for Environmental Preferable Furniture: Review of Chemicals of Concern and Certifications & Standards](#), August 2016.

A number of recommendations also were provided to incorporate universal green structure into all bids. These recommendations included requirements to provide:

- Accurate and meaningful labeling of products on vendor websites that would include correct environmental certifications and the ability to remove inaccurate green labels (e.g, greenwashing or products that do not comply with bid standards).
- Green product reporting requirements
- A robust supply of green products or products made by disadvantaged businesses
- Access to greener products
- Flexibility for vendors to provide information on additional/value-added sustainability programs
- Contract users the ability to negotiate additional environmental/sustainability requirements

All results from the project were compiled into a report titled [Final Report NASPO-Massachusetts OSD Technical Assistance Grant Environmentally Preferable Product Specifications for Facilities Maintenance, Repair and Operations \(MRO\) Contract - June 2016](#), which may be viewed on the [NASPO website](#).

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## Update on EPP Green Cleaners

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As reported in the [FY2015 EPP Annual Report](#), the OSD green cleaning products contract, *FAC85: Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies*, has been a main focus of the EPP Program since 2009. FAC85 is a multi-state contract available to Connecticut, New York, Rhode Island, and Vermont in cooperation with the lead state of Massachusetts. (The states of New Hampshire and Maine also are eligible to join).

FAC85 offers a comprehensive line of products and provides contract users with a “one-stop-shop” solution for their supplies and equipment needs and contributes to procurement efficiency and user time savings. Further, the contract requires vendor product training which allows for smooth contract transition.

All the green chemicals and janitorial paper products included in this contract are required to be “Independently Third-Party Certified;” which means that the environmental claims, as well as the product’s performance, have been tested and certified by an established and legitimate, nationally recognized third-party certification program. Contract users do not have to analyze technical data and may be assured that the product will perform well. Disinfectants and various sanitizers are not certified as no certification is available for these products. In addition, vendors were selected for their ability to provide assistance in transitioning eligible entities to a green cleaning program.

In FY2016, we were honored to be recognized by SPLC with their *Purchasing Innovation Award* for our green cleaners’ work which recognizes a project that best demonstrates sustainable purchasing’s ability to promote, discover, and import innovation into an organization.

All purchases of green products reported by FAC85 vendors in their FY2016 quarterly vendor reports, which included sales to executive departments, municipalities, and authorities, and other states, indicated green purchases of more than \$12.5 million dollars, up from just over \$9 million in FY2015. Purchases from Commonwealth executive agencies increased from \$3,328,880 in FY2015 to \$4,215,000 in FY2016.

Significant online marketing was done to publicize the contract, through the EPP Newsletter, *Buy the Way*, and OSD Blog posts. The EPP Program continued to work closely with experts at the Toxics Use Reduction Institute’s<sup>18</sup> Green Cleaning Lab to provide additional assistance to state facilities in implementing a green cleaning program. Results of this assistance are

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<sup>18</sup> The Toxics Use Reduction Institute (TURI) is located at the University of Massachusetts Lowell and provides resources and tools to help the Commonwealth reduce toxics use in the environment. TURI’s Green Cleaning Lab tests the performance of industrial and janitorial cleaning products to encourage companies, institutions, and product formulators to choose and develop safer substitutes. Information may be found at [www.turi.org](http://www.turi.org).

reported in the [CY2016 Toxics Reduction Task Force Annual Report](#) , which includes:

- Department of Conservation Resources (DCR): converted 29 pool facilities and more than 100 facilities throughout the state to green cleaning programs;
- Department of Transportation (MassDOT): converted 13 depots to green cleaning programs; and
- Massachusetts Bay Transportation Authority (MBTA): added an environmentally preferable bus cleaning process at their bus cleaning facilities.

To stay current and up to date with the changing and evolving green cleaning industry, a process was established for adding green cleaning products to the FAC85 contract. The process involves review and approval by the TRTF, which created the criteria for reviewing new products, of requests from vendors to allow new, innovative types of green cleaning products to the contract as they emerge in the marketplace, thus creating a living contract. Since FAC85’s inception, the TRTF has approved adding one product - Food Grade Dichloroisocyanurate (NaDCC), a cleaning product for food contact sanitization.

As mentioned earlier, FAC85 was developed through a multi-state collaboration which increased the purchasing power of this contract, resulting in substantially discounted prices for contract users. On average, the products offered on FAC85 have a discount of approximately 20% off the manufacturer’s suggested retail price. Analysis of FY2016 quarterly reported vendor data reflects \$3.2 million in savings on products from discounts off of the Manufacturers Suggested Retail Price.

In addition to discount savings, it is estimated that additional environmental savings from using a variety of products on the contract have resulted in numerous environmental benefits:

**Table 7: FAC85 Cost and Environmental Benefits Calculated from FY2016 Usage**

Description of Outcome	Pounds of Hazardous Material Reduced	MTCE Reduced	Water Conserved (Gallons)	Dollars Saved
Negotiated Discounts for Green Cleaning Products (using FY2016 vendor reported sales subtracted from Manufactures Suggested Retail Price)				\$3.2 million
Purchase of Microfiber Mops	95% chemical reduction <sup>19</sup>	790	19.5 million	\$119,000
Purchase of Certified Low-Toxicity Foaming Hand Soap	190,000 (including 3,000 of Triclosan <sup>20</sup> )	70	1.1 million	\$11,000
Purchase of Certified Low-Toxicity Glass Cleaner (Non-Ammoniated)	13,000			
Purchase of Certified Low-Toxicity Laundry Detergents	2,800		High Efficiency	

\*All calculations and assumptions on the above may be found in the “Resources” section of this document

The contract currently has more than 16,000 high quality, lower cost, and environmentally preferable green cleaning products.

## Toxics Reduction Task Force

To facilitate implementation of EO 515, the TRTF was established in 2009 with oversight and leadership by the Operational Services Division and the Office of Technical Assistance and Technology (OTA). The TRTF is comprised of staff from the Department of Public Health (DPH), the Division of Labor Standards (DLS), and TURI. The goals and objectives of the TRTF are to select priority focus areas for reduction in toxic substances in products or services – and work to implement through language in SWCs, guidance, or technical assistance. The TRTF reports on a calendar year basis, and the [CY2016 Toxics Reduction Task Force Annual Report](#) is available online.

The TRTF efforts over the past year included working through issues regarding how local boards of health test for disinfection and whether there are opportunities to advocate and integrate safer sanitizing and disinfecting into facility

<sup>19</sup> Microfiber mops reduce water and chemical usage by 95%; US EPA, <https://www3.epa.gov/region9/waste/p2/projects/hospital/mops.pdf>

<sup>20</sup> Triclosan is an antibacterial compound

practices. The TRTF unveiled the complexities over regulations and authority, and continues to work with the Board of Health on these issues. The TRTF also completed its protocol for evaluating products and technologies submitted by vendors through the Alternative Approval process for FAC85, which resulted in approving a new sanitizer.

The TRTF identified Flame Retardant chemicals as a chemical of concern in furniture, an outgrowth of national scientific research and changes in national and state fire codes allowing furniture to be flame retardant free if meeting fire protection criteria, and worked closely with OSD to finalize the EPP Furniture project, as mentioned earlier in this report.

The Task Force also consulted on the SWC for Integrated Pest Management (IPM) which was awarded in April 2016 and included a requirement to provide full disclosure of products used. Bidders provided information on their use of “safer” pesticide products. In addition, the Task Force helped facilitate education to Fleet Managers and vendors on pollution prevention opportunities offered through the OTA.

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## Awarding Statewide Contracts with EPPs

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One of the most critical responsibilities of the EPP Program is to provide assistance to the SSSTs in understanding the increased availability and high quality performance of green products. As agency staff and team members shift over time, these teams look to the EPP Program to ensure that the environmental specifications are up to date and valid, to explain any emerging third-party standards that are being used to define what should be considered green, and to educate new team members on the aspects of environmental purchasing. The EPP Program reviews eco-labels, third-party certifications, and industry standards and provides recommendations for use to the SSSTs.

The EPP Program staff served as SSST members or provided guidance on five new SWCs as briefly described below. Additional information on the dozens of contracts in Massachusetts now containing EPPs may be found in the [Environmentally Preferable Products and Services Guide](#).

### The following SWCs include EPPs:

- [FAC92- Integrated Pest Management](#): Established in response to Executive Order 403: Integrated Pest Management, this contract requires all executive agencies to use an IPM approach to pest control. The contract also meets the regulations outlined in the Children and Families Protection Act of 2000 (333 CMR 14.00), which requires all Massachusetts schools, daycare centers, and school-age child care programs to implement a School IPM Program to reduce the exposure of children to pests and pesticides. The contract provides facilities and schools with a pre-qualified list of contractors experienced in IPM.
- [FAC94 - Maintenance, Repair & Operations \(MRO\) Products, Supplies and Small Hand & Power Tools](#): This contract covers a wide range of products, supplies, and equipment necessary to ensure the proper function of maintenance, repair, and operations of a facility with the availability of specialty hand and power tools, and includes many EPP options.
- [GRO35- Foodservice Supplies and Equipment, Institutional Commercial Grade Large and Small](#): This contract provides grocery-related items/foodservice supplies and it also includes equipment that is EPA Energy Star and WaterSense rated, as well as products that are biodegradable/compostable and offer an environmentally preferable and sustainable alternative to conventional disposable foodservice ware. Biodegradable products may be made from fibers, resins, or other materials that may be satisfactorily composted in most municipal and/or industrial composting facilities. Acceptable third-party certifications for compostable foodservice ware on this contract include:
  - Biodegradable Products Institute (U.S.)
  - Cedar Grove Composting Approved
  - AIB Vinçotte Inter: OK Compost (Belgium)
  - Australian Environmental Labeling Association
  - Japan BioPlastics Association



- DIN CERTCO (European Union)

Many of these products comply with the following specifications:

- 100% biodegradable and made from renewable resources.
  - Compatible for composting in typical cafeteria food waste programs without detracting from the quality of the finished compost produced through such programs.
  - Complies with the American Society of Testing and Materials (ASTM) d6400-99 “specifications for compostable plastics” (for products that contain or consist of compostable plastics).
  - Complies with ASTM d6868 “specifications for biodegradable plastic coatings on paper and other compostable substrates” (for compostable products with biodegradable plastic coatings).
- [ITC66 - Copiers, Printers, Scanners and Related Devices and Services](#): This contract includes the purchase, lease, or rental of energy-efficient copiers, printers, digital duplicators, scanners, faxes, and related services and supplies. All electronic equipment is required to be EPEAT registered and the contract allows vendors to offer remanufactured options. ITC66 requires toner to be labeled by the vendor, which allows for easier tracking, requires vendors to track cartridge failure rates, and includes language that specifies warranties and service contracts may not preclude the use of remanufactured or generic supplies. The contract also prohibits vendors from communicating to an end user that a product selected on this contract should not be used, is inconsistent, or will cause a problem.
  - [PRF61: Management Consultants, Program Coordinators and Planners Services](#): This contract is used for management consultant, program coordinator, and planner services in seven specialty areas, including an environmental category.

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## EPP Partnerships

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In FY2016, the EPP Program continued to actively work with other organizations and states to find common ground on EPP product and service specifications and market purchasing guidance to buyers. Some of the key organizations are included in the appendix.

# Tracking EPP Purchases on Statewide Contracts in FY2016

There are an estimated 50 SWCs that contain EPPs. Not all of these contracts are dedicated EPP contracts, but they do have identifiable EPP spend. For FY2016, we estimate that \$290,445,109 was spent on EPPs through SWCs (see table below).

In past years, the EPP spend analysis included EPP spending reported by the Massachusetts Department of Transportation. Beginning in FY2016 and in future EPP Reports, the EPP spend will include only those purchases made directly from SWCs, as provided in vendor reports.

## Challenges in Measuring EPP Spend on SWCs

As reported in previous Annual Reports, collecting, consolidating, reviewing, and validating data to measure the success of the EPP Program continues to be a challenge. Per the terms of their respective contracts, vendors are required to submit sales data on a quarterly basis. The EPP Program included EPP data requirements in these reports and typically relies on the information submitted by SWC vendors to track the purchases of EPPs. In FY2016, a standardized vendor reporting form and access database was developed, helping to streamline the data.

Data consistency, however, remains an issue. Vendors use disparate terminology in their reports, omit EPP data, and place data in wrong columns, resulting in time-consuming data analysis. The EPP Program has been working with SSSLs to require, when available, the manufacturer’s stock keeping unit (SKU) number, a unique identifier for a product. If a proper SKU is provided, the EPP Program uses this information to match to lists of products qualified as EPPs, which significantly saves time related to data analysis. In addition, the EPP Program has requested several third-party certifiers to require SKU-level certification for products, which would enable buyers to download lists of certified products from their websites and easily match that information with data received from vendors. The EPP Program also has engaged the SPLC in this effort.

The Table below shows the estimated EPP Spend for FY2016 through SWC use and includes the contract name, contract number, FY2016 estimated spend on EPPs, the data source, and the type of EPP product or service available on that contract. Data sources include vendor reported data (vendor reports), data from the Massachusetts Management Accounting & Reporting System (MMARS Data), and specific data provided by vendors when they pay their required 1% administrative fee (vendor reported data (1% fee)) which is submitted quarterly and based on payments received. The 1% fee data differs from the vendor reported data in that it calculates sales, rather than payments, but is another indicator of contract spend.

**Table 8:**  
**Estimated EPP Spend for FY2016 through Statewide Contracts**  
*Source Data: Vendor Reports, MMARS Data, Vendor Reports from Leading By Example Program (LBE), Vendor Reported Data (1% Fee), MassDOT 2012 Data*

Contract Name	Contract Number	2016 Spend	Spend Source Data	EPP Product/Service
Clothing, EPP	CLT07	\$18,719	Vendor Reports	Fleece products
DCR Compost Toilets	DCR424	\$358,761	MMARS Data	Compost Toilets
Biodiesel	ENE33/ENE40cat2	\$16,981,680	Vendor Reports/From LBE	Alternative Fuel
No. 2 Heating Oil - B5 Bio-Heat Only	ENE34	\$14	Vendor Reports (from LBE)	Alternative Fuels
Ultra-Low Sulphur Diesel	ENE40	\$6,343,115	Vendor Reports (from LBE)	Alternative Fuels
Imprinted Pay-As-You-Throw Bags - DEP Designated SWC	FAC55	\$887,830	Vendor Reports	Imprinted Pay-As-You Throw Bags with Recycled Content
Recycling Bins - DEP Designated SWC	FAC61/FAC87designatedDEP	\$7,629,802	Vendor Reports	Recycling Containers/Rain Barrels/Big Belly solar

Contract Name	Contract Number	2016 Spend	Spend Source Data	EPP Product/Service
				systems
<b>Pest Control Services: Integrated Pest Management</b>	FAC74	\$2,250,989	Vendor Reported Data (1% fee)	Reduced Pesticide Use
<b>Maintenance, Repair and Operations (MRO) Products, Supplies and Equipment</b>	FAC76	\$2,524,041	Vendor Reports	Energy and Water Efficient Supplies, Recycled Content, Low Toxicity
<b>Integrated Pest Management for Turf and Landscaping, and Other EPP Landscape Services</b>	FAC77	\$2,250,123	Vendor Reports	EPP Planting and Maintenance
<b>Landscaping &amp; Green Roof Products, Playground Equipment, Site Amenities and Related Products</b>	FAC79	\$2,851,016	Vendor Reports	Recycled Content Products and Organic Fertilizers, Plastic Lumber
<b>Water Treatment Chemicals and Systems</b>	FAC80	\$147,688	Vendor Reports	Chemical-Free Cooling Tower Cleaners, Pool Ionization and Ozonation, Salt Water Chlorination Systems
<b>Janitorial Services - EPP</b>	FAC81	\$19,571,879	Vendor Reported Data (1% fee)	Less Toxic and Recycled Content Cleaning Products
<b>Hazardous, Medical, Hard-to-Manage Waste Collection, Disposal/Emergency Response</b>	FAC82	\$5,279,779	Vendor Reports	Safe Management and Recycling of Hazardous Products
<b>Renewable/Alternative Energy Credit Statewide Contract</b>	FAC83	\$4,704,866	MMARS Data	Management of Renewable Energy Credits
<b>Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies</b>	FAC85	\$12,582,398	Vendor Reported Data (1% fee)	Less Toxic and Recycled Content Cleaning Products
<b>Solid Waste and Recycling</b>	FAC86	\$6,729,912	Vendor Reported Data (1% fee)	Solid Waste and Recycling Services
<b>Lawns and Grounds, Equipment (EPP)</b>	FAC88	\$158,74	Vendor Reports	Energy, Fuel and Water Efficient Products, Battery Electric Equipment
<b>Demand Response</b>	FAC89designatedDCAMM	\$476,114	Vendor Reported Data (1% fee)	Energy Efficient Building Systems
<b>Mattress Recycling</b>	FAC90designatedDEP	\$24,177	Vendor Reported Data (1% fee)	Mattress Recycling
<b>Integrated Pest Management, Indoor and Outdoor</b>	FAC92	\$686,318	Vendor Reports	Reduced Pesticide Use
<b>Archiving, Scanning and Recycling of Records</b>	FAC96	\$43,125	Vendor Reports	Converting to Electronic Storage, Paper Recycling
<b>Walk-in Building Supplies</b>	FAC99	\$54,940	Vendor Reports	Energy and Water Efficient, Low Toxic Building Supplies
<b>Organic Food</b>	GRO30	\$3,435	Vendor Reports	Organic or Locally Sourced Foods
<b>Bottle-less Water Systems</b>	GRO34	\$389,114	Vendor Reports	Bottle-less Water Systems, Energy Efficient Products, Plastic Bottle Recycling
<b>Foodservice Equipment, Environmentally Preferable</b>	GRO35	\$493,101	Vendor Reports	Compostable and Recycled Content Foodware, Energy and Water Efficient Products
<b>IT Hardware, Computers, Laptops, Peripherals, NASPO/WSCA Agreement</b>	ITC44	\$11,539,400	Vendor Reported Data (1% fee)	EPEAT
<b>IT Hardware Computers, Mobile Equipment, Servers, Storage and Services</b>	ITC47	\$121,887,900	Vendor Reported Data (1% fee)	EPEAT
<b>IT Asset Lease Services</b>	ITC49	\$1,622,473	Vendor Reported Data (1% fee)	EPEAT
<b>Photocopier, Fax Digital Duplicator Equipment, Service, Copier, Printer Supplies</b>	OFF16LEASES	\$95,496	MMARS Data	Energy Star Equipment and Remanufactured Toner Cartridges
<b>Photocopier, Fax Digital Duplicator Equipment, Service, Copier, Printer</b>	OFF16PURCHASES	\$16,678	MMARS Data	Energy Star Equipment

Contract Name	Contract Number	2016 Spend	Spend Source Data	EPP Product/Service
Supplies				
Photocopier, Fax Digital Duplicator Equipment, Service, Copier, Printer Supplies	OFF16SERVICE	\$25,012	MMARS Data	Energy Star Equipment
Audio, Video, Multimedia Presentation Equipment and Service	OFF27/40	\$13,026,005	Vendor Reported Data (1% fee)	Energy Star Equipment
Photocopier, Facsimile, Digital Duplicator Equipment and Service; Photocopier, Facsimile, Digital Duplicator, and Printer Supplies	OFF32	\$32,106,269	Vendor Reports	EPEAT Registered Equipment and Remanufactured Toner Cartridges
Print, Copy & Mail Services, and Printed Promotional Products	OFF33/44	\$6,545,587	MMARS Data	Recycled Content Products, EPP Printing Equipment (Waste and Pollution Prevention Technologies)
Art & Instructional School Supplies	OFF35	\$443,471	Vendor Reports	Recycled Content Products
Office Supplies, Recycled Paper and Envelopes	OFF36	\$13,839,999	Vendor Reports	Recycled Content Paper, Envelopes and Office Products
Windshield and Glass Replacement for Vehicles	OVM08	\$308,019	Vendor Reported Data (1% fee)	Recycling Window Glass
Short-Term Rental of Various Light Duty Vehicles	OVM09	\$679	Vendor Reports	Alternative Fuel or Hybrid Vehicle Rental
Management Consultants, Program Coordinators and Planner Services	PRF46	\$437,339	Vendor Reports	Environmental Consultant Services
Environmental Management Consultants, Program Coordinators, and Planners	PRF61	\$474,408	Vendor Reports	Environmental Consultant Services
Energy Consulting Services	PRF62	\$121,946	Vendor Reports	Energy Consultants
Vehicle Maintenance Management Services & Accident Subrogation	VEH84A	\$2,925,747	Vendor Reports	Vehicle Repair and Inspection
Traffic Safety Products	VEH92	\$124,775	MMARS Data	Recycled Content Traffic Cones, Channelizer drums, flexible delineator posts
Light, Medium, Heavy Duty OEM & NON-OEM Motorized Vehicle Parts, Refined Motor Oil, Lubricants	VEH96	\$1,543,667	15% of Vendor Reported Data (1% fee)	Re-Refined Motor Oil, Remanufactured Antifreeze, Bio-Based Lubricants, Remanufactured/Refurbished Motor Parts
Light Duty Vehicles - Passenger Cars, SUVs, Trucks, Vans, SSVs and PPVs	VEH98	\$5,202,055	Vendor Reports	Electric, Hybrid, Diesel Vehicles, or with Ecoboost or Primary and Secondary E85 Fuels
<b>TOTAL SWC SPEND</b>		<b>\$290,445,109</b>		

# Conclusions and Considerations for FY17

There are thousands of EPPs available in the Commonwealth's SWCs. Offering a robust supply of green/sustainable products is the foundation of the program, but unless the price, performance, and availability are comparable to conventional products or are required by policy or regulations, buyers may not choose them.

The EPP Program partners with many other state and non-state entities to market and provide technical assistance to buyers on the multitude of EPPs available. The EPP Program also has established minimum environmental standards for products and services, such as requirements for copy paper to contain 30% post-consumer recycled content, computers to be ENERGY STAR certified, and cleaning products to meet third-party certifications. Together, these programs and policies have contributed to purchasing nearly \$300 million of products and services that have a reduced impact on human health and the environment during FY2016.

Because there are so many products and services available and additional green options come on the market every day, the EPP Program continues to reach out to OSD staff, other agencies, vendors, non-profit organizations, and other states to promote environmental purchasing as a value proposition – contributing to improved human health and a variety of environmental benefits, and, in many cases, cost savings. The Commonwealth employs a “best value” approach to its procurement process, which allows SSSTs to incorporate expanded evaluation and measures into the bidding process.

The EPP Program tries to stay abreast of new criteria, environmentally preferable and innovative products available for use in SWCs and, each year, as time allows, the EPP Program focuses on different opportunity areas. During FY2016, we identified opportunities to integrate EPPs into our furniture and MRO contracts. From this work, a number of recommendations also were developed to incorporate universal green structure into OSD's bid language. All of the recommendations have been shared nationally and have served as models for identifying EPPs in furniture and MRO products.

Accurate and meaningful EPP labeling always is a challenge and leads to difficulty in measuring progress, especially through vendor reported data. However, the implementation of an online vendor reporting system over the next few years and identifying SKU-level EPP product data may help to improve vendor reports. The EPP Program looks forward to working with OSD Staff, interagency colleagues, and national partners to consider additional labeling strategies.

In FY2017 the EPP Program will continue to improve outreach regarding EPPs to buyers and vendors through website revisions, newsletters, guides, and social media; work with Strategic Sourcing Staff to research and identify additional EPPs to include in new RFPs and strengthen specifications for re-bids; and participate in vendor and buyer kick-off events to highlight EPPs on contracts.

As the Program considers the areas of focus for FY2017, several initiatives take priority:

- Explore development of a statewide policy and contract for Enterprise Printing for Executive agencies, which integrates environmental specifications and policies to reduce cost, energy, and waste;
- Finalize and publicize findings from the EPP Furniture Project;
- Develop environmental specifications for Battery-Powered Lawn Equipment;
- Review existing sanitizers and disinfectant specifications approved by the TRTF and develop specific criteria for alternative approval process;
- Improve outreach on EPPs to buyers and vendors through OSD's newsletter, *Buy the Way*, guides, fact sheets, and social media;
- Support statewide programs to promote other environmental initiatives, such as the Leading By Example Program, many of the energy efficiency programs in place at the Department of Energy Resources (DOER) and the

Department of Capital Asset Management and Maintenance (DCAMM) that are targeted to state facilities, and recycling initiatives at the Department of Environmental Protection (DEP); and

- Continue to foster partnerships with national organizations such as the Responsible Purchasing Network (RPN), National Association of State Procurement Officials (NASPO), ValuePoint, the Sustainable Purchasing Leadership Council (SPLC), and others to pool resources and market successes.

Building a sustainable future requires persistent innovation as Massachusetts works together to shift from the inefficient use of energy and materials toward a new paradigm that emphasizes efficiency, closed-loop, and cradle-to-cradle product purchasing, toxic-free products and practices, and the protection of natural resources and ecosystems.

# Resources

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## A. EPP Website

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View at: [www.mass.gov/epp](http://www.mass.gov/epp)

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## B. EPP Furniture Guidance

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The EPP Program has worked with existing vendors to identify environmentally preferable lines of furniture on Statewide Contract OFF38: Office, School and Library Furniture, Accessories & Installation that have reduced indoor air quality emissions and toxicity.

View at: <https://www.mass.gov/service-details/find-epp-furniture>

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## C. Green Cleaners Alternative Approval Form

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The Toxics Reduction Task Force has developed a form for FAC85 vendors to propose innovative green products for use on contract.

View at: <http://www.mass.gov/anf/budget-taxes-and-procurement/procurement-info-and-res/procurement-prog-and-serv/epp-procurement-prog/toxics-reduction-task-force.html>

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## D. FAC85 Environmental Benefit Cost Savings

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Massachusetts requires each of its approved vendors to document the types and quantities of cleaning products they sold to buyers on a quarterly basis. Using the vendor reported data from FY2016; the following calculations were made to estimate several environmental benefits of FAC85.

1. Pounds of hazardous materials reduced.
  - Low Toxicity Hand Soaps:
    - Amount purchased: more than 20,000 gallons
    - Hazardous Materials Reduced (i.e., hand soap containing antimicrobials and other toxic materials): 190,000 pounds/annually and an estimated 3,000 pounds of Triclosan (a toxic chemical) from being washed down the drain each year.
    - Assumptions:
      - Each gallon of hand soap weighs 9.25 pounds (a 4-gallon case weighs 37 pounds according to multiple vendors)
      - 50% of the “green” hand soaps replaced antimicrobial hand soap, commonly used by institutions.
  - EPP Glass Cleaner:
    - Amount Purchased: approximately 13,000 pounds.
    - Hazardous Materials Reduced: These products often replace glass cleaners that contain ammonia, a known respiratory sensitizer that may cause asthma among workers and trigger asthma attacks among building occupants.
  - Low Toxicity Laundry Detergent:
    - Amount Purchased: Approximately 2,800 pounds
    - Hazardous Materials Reduced: These products replace conventional laundry detergents, which often contain hazardous ingredients such as nonylphenol ethoxylate (NPEs). According to the EPA, NPEs are “highly toxic to aquatic organisms, and in the environment degrade to more environmentally persistent [nonylphenol] NP...which is extremely toxic to aquatic organisms. NP also has been detected in human breast milk, blood, and urine and is associated with reproductive and developmental effects in rodents.” While NPEs largely have been phased out of household laundry detergents, according to the EPA, they are still used in commercial laundry detergents.
2. Gallons of water saved.
  - Foaming Hand Soap:
    - Water Saved: estimated 1.1 million gallons of water annually by utilizing foaming hand soap instead of liquid (i.e., lotion) hand soap.
    - Assumptions:
      - More than 95% of hand soap products sold is foaming products.

- A report by GOJO<sup>21</sup> noted that approximately 14,800 gallons of water is saved for every 1 million hand washes that use foaming hand soap instead of liquid.
- Microfiber Mops:
  - Water Saved: 11.9 million gallons annually
  - Assumptions:
    - Approximately 7,000 microfiber mops purchased
    - A single mop will be used 200 days/year
    - An average of 10 rooms cleaned per day, per mop.
    - 95% water usage savings. (UMASS Lowell reports that with loop or sponge mops, soiled mops are rinsed in the cleaning solution. This requires frequent cleaning solution changes to prevent cross-contamination between rooms. Microfiber mops are soaked in a small volume of cleaning solution. Hence, there is no need to replace the solution, considerably reducing the amount of water and disinfectant used and disposed down the drain. The EPA reports in their “Using Microfiber Mops in Hospitals” case study that using a microfiber mop would reduce water use from 105 gallons to 5 gallons per 100 rooms cleaned.<sup>22 23</sup>
    - If using a loop or sponge mop, 9.5 gallons of water would be used per day, per mop. If using microfiber mop, 1 gallon of water would be used per day, per mop, resulting in savings of 8.5 gallons per day, per mop.
    - 7,000 microfiber mops x 200 days/year x 8.5 gallons/mop/day = 11.9 million gallons
- 3. Metric tons of carbon dioxide equivalent (MTCO2e) reduced<sup>24</sup>.
  - Foaming Hand Soap: MTCO2e Reduced: Approximately 70 MTCO2e
    - Assumptions:
      - 1.1 million gallons of water saved (see above) by using foaming hand soap, which is more water-efficient than liquid hand soap
      - Estimate 0.18 kWh of electricity to heat each gallon of water. Assumed, conservatively, that half of the hand-washing water saved would have been heated (1.1 million gallons of water X 50%) = 650,000 gallons X 0.18 kWh = approx. 100,000 kWh
      - Use EPA’s Greenhouse Gas Equivalency Calculator to determine reduction in MTCO2e using 100,000 kWh of electricity due to reduced hot water usage = 70 MTCO2e
  - Microfiber Mops: MTCO2e: 120 metric tons
    - Assumptions:
      - 11.9 million gallons of water savings (see info above).
      - 50% of the water used to mop floors would be heated
      - 5.9 M gallons X 0.18 kWh = 1,062,000 kWh
      - Use EPA’s Greenhouse Gas Equivalency Calculator to determine reduction in electricity due to reduced hot water usage using 1,062,000 kWh of electricity due to reduced hot water usage = 790 MTCO2e
- 4. Dollars saved
  - Discount: FAC85 offers discounts ranging from 2% to 75% on more than 16,000 green cleaning products. For FY2016, Manufactured Suggested Retail Price (MSRP) was calculated for all items and actual discounts were calculated reflecting \$3.2 M in savings (MSRP) x actual discounts provided per line item x number of units of measure).
  - Use of foaming hand soaps and microfiber mops would equate to \$130,000 in savings annually in reduced water usage<sup>25</sup>, and reduced energy usage from heating water (1.1 M gallons + 11.9 M gallons \* .01 per gallon = \$130,000 savings).
  - Save money by purchasing one product that uses different dilution rates for different levels of cleaning, sanitizing, or disinfecting, instead of purchasing multiple products. In addition, the contract requires the use of closed loop dilution systems, which portion controls product, restricting ability of users to pour more than is needed, which increases cost.

<sup>21</sup> GOJO, Liquid Soap vs. Foam Soap: Which One Wins the Water Savings Battle? 2014: <http://gojo.com/en/newsroom/blog/2014/Liquid-Soap-Water-Savings-Battle>

<sup>22</sup> Using Microfiber Mops in Hospitals, US EPA, Environmental Best Practices for Health Care Facilities, November, 2002: <https://www3.epa.gov/region9/waste/p2/projects/hospital/mops.pdf>

<sup>23</sup> Ten Reasons to Use Microfiber Cleaning Tools, UMASS Lowell Department of Work Environment, 2013: <http://www.sustainableproduction.org/downloads/TenReasonsforMicrofibercleaning012113.pdf>

<sup>24</sup> US EPA, Greenhouse Gas Equivalencies Calculator, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>

<sup>25</sup> US EPA WaterSense estimates the cost of water is approximately \$3/200 gallons; public agencies get utility discount = \$2/200 gallons = \$0.01/gallon.



## E. EPP Partnerships



National Association of State Procurement Officials (NASPO) Green Purchasing Committee: The EPP Program Director served on the NASPO Green Purchasing Committee (GPC) which works to identify and share best practices in environmentally preferable (green) purchasing. It serves as a resource for state members and policymakers on standards, product specifications, and policies for implementing green purchasing programs. In FY2016, the GPC completed its online interactive map of States with Green Purchasing Programs and developed a program to fund technical assistance grants for states. [www.naspo.org](http://www.naspo.org)



Sustainable Purchasing Leadership Council (SPLC): OSD joined the SPLC as a member in 2014. The Council brings together visionary professionals from institutions, suppliers, government, standards bodies, and NGOs to simplify, optimize, and standardize the practice of sustainable procurement, leveraging dollars spent by organizations to drive social, environmental, and economic sustainability. The EPP Program participated in the 2016 Annual Meeting, was recognized with two awards (as described in this report) and presented in two sessions. EPP Furniture and Cooperative Purchasing were the topics discussed. [www.sustainablepurchasing.org](http://www.sustainablepurchasing.org)



Massachusetts Clean Energy Center (CEC): A publicly funded agency dedicated to accelerating the success of clean energy technologies, companies, and projects in Massachusetts. The EPP Program has worked with the CEC to explore how small companies with innovative clean tech products or services could work with state entities and help navigate state contracting to assist these companies in becoming competitive. A grant program, DeployMass, was developed to provide financial and technical assistance to innovative, market-ready clean technology. [www.cec.org](http://www.cec.org)



Responsible Purchasing Network (RPN): Massachusetts was one of the founding members of this highly visible and valuable on-line resource and consulting network for responsible state purchasing. The RPN provided significant technical assistance to Massachusetts in developing specifications for Maintenance, Repair, and Operations contracts. The organization continues to produce guidance and comprehensive materials on a broad range of green purchasing issues. [www.responsiblepurchasing.org](http://www.responsiblepurchasing.org)



Toxics Use Reduction Institute (TURI) at the University of Massachusetts Lowell: provides resources and tools to help make the Commonwealth a safer place to live and work. TURI's Green Cleaning Lab participates on the Toxics Reduction Task Force (TRTF). [www.turi.org](http://www.turi.org)



Center for Environmental Health (CEH): The CEH is a non-profit organization dedicated to working with parents, communities, businesses, workers, and government to protect children and families from toxic chemicals in homes, workplaces, schools, and neighborhoods. The EPP Program worked with the CEH to identify future projects for flame retardant free furniture on SWC's. [www.keh.org](http://www.keh.org)



Northeast Recycling Council (NERC): NERC's mission is to advance an environmentally sustainable economy by promoting source and toxicity reduction, recycling, and purchasing of environmentally preferable products and services. The EPP Program has worked with NERC on recycled content specifications. [www.nerc.org](http://www.nerc.org)



Massachusetts Coalition for Occupational Safety and Health (MassCOSH): MassCOSH works with workers, unions, community groups, and environmental and health activists, to end dangerous working conditions; organize for safe, secure jobs; and advocate for healthy communities through training, technical assistance, and building community/labor alliances. MassCOSH has worked with the EPP Program to advance green cleaning in schools within Massachusetts and participated on the FAC85 Sourcing team. [www.masscosh.org](http://www.masscosh.org)



Asthma Regional Council of New England (ARC): The mission of ARC is to reduce the impact of asthma across New England, through collaborations with health, housing, education, and environmental organizations focused on the contribution of schools, homes, and communities to the disease and with attention to its disproportionate impact on populations at greatest risk. The EPP Program has worked with ARC to distribute green cleaning information. [www.asthmaregionalcouncil.org](http://www.asthmaregionalcouncil.org)