



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 for Fiscal Year 2019

Including Reporting from the Toxics Reduction Task Force

Executive Summary

In 2009, the Commonwealth of Massachusetts formally established its Environmental Purchasing Policy through *Executive Order 515* (EO 515)¹ which is administered by the Operational Services Division's (OSD) Environmentally Preferable Products (EPP) Procurement Program. This report summarizes the achievements and documents progress with EO 515 goals for Fiscal Year 2019 (FY19) and includes:

1. Estimates of available data on actual EPP purchases and their associated environmental, health, and fiscal benefits
2. An overview of the FY19 contracts with established environmentally preferable products, including a review of environmental standards set and whether environmental third-party certifications were used
3. An update on new and innovative EPPs, technologies and services
4. How OSD encourages state contractors to incorporate EPPs and sustainable practices in their operations
5. An update on how OSD supports the development of appropriate training and outreach on procuring EPPs and identification of their fiscal, environmental, and health benefits

This report also includes a progress update on the *Toxics Reduction Task Force* (TRTF).² The TRTF was established to help facilitate implementation of EO 515, and primarily assists in identifying ways to reduce toxic substances in products or services on Statewide Contracts (SWC).

The EPP Program estimates the following key estimated environmental and cost benefits for FY19:

	FY19
Estimated EPP spending from Statewide Contracts	\$400M
Estimated annual savings, primarily from energy efficient purchasing choices	\$5,652,173
Reduction in metric tons of carbon dioxide equivalent (MTCO2e) ³ , primarily from purchasing energy efficient products, those containing post-consumer recycled content, or materials diverted from disposal	219,235
Estimated tons of waste diverted from disposal to recycling	56,171

Some of the tools used to calculate the above numbers also estimate lifetime benefits. For example, as explained in the report, lifetime savings from using energy efficient lighting is estimated to be over \$20M. In addition, using third party registered computers and imaging equipment is estimated to save the Commonwealth an additional \$10M over the product lifetime. Discussion of these calculations may be found in Appendix A and B.

EPPs are found in 55⁴ of OSD's SWCs and include thousands of environmentally preferable products/services. The data indicates that EPPs are an integral part of the contracts aiding the Commonwealth to save millions of dollars per year, reduce the negative impacts on human health and the environment. The measures reported demonstrate the immense value of the OSD's EPP Program and helps confirm the business case for supporting sustainable product choices.

Looking Ahead: The following are initiatives that the OSD will focus on for FY20:

- Continue to work with sourcing staff to refine data requirements for vendor environmental reporting and work towards automating data collection
- Improve outreach on EPPs to buyers and vendors through the OSD's newsletter, *Buy the Way*, guides, fact sheets, and social media
- Support statewide programs to promote other environmental initiatives and foster partnerships with national organizations to pool resources and market successes
- Review various chemicals in products on SWCs and offer research and procurement advice on alternatives

¹ <https://www.mass.gov/files/documents/2016/08/vb/executive-order-515.pdf>

² <https://www.mass.gov/service-details/toxic-reduction-task-force>

³ MTCO2e is a measure used to compare the emissions from different greenhouse gases based upon their global warming potential (GWP).

⁴ There are over 100 OSD SWCs.

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EPP Program Overview

The OSD provides management and oversight to more than 100 Statewide Contracts (SWC) for goods and services used by eligible entities.⁵ Purchases on these contracts reached over \$1.7 billion in FY19. The EPP Program is administered by OSD with the support of the Executive Office of Environmental Affairs (EOEEA) and the Massachusetts Department of Environmental Protection (MassDEP), to find ways to leverage the Commonwealth's purchasing power to provide cost effective sustainable purchasing choices that reduce our impact on public health and the environment. This includes fostering markets for products with recycled content and promoting the purchase of goods and services that conserve energy, water, and other resources while reducing waste and the use of toxic substances. OSD has supported the Environmentally Preferable Products Procurement (EPP) Program for 23 years, making it one of the longest standing state EPP programs in the country.

Through collaboration with the Department of Public Health (DPH), EOEEA's Office of Technical Assistance and Technology (OTA), and the Division of Energy Resources (DOER), which includes the Leading by Example (LBE), the Green Communities, and the Clean Cities Programs, OSD develops a number of recommendations for consideration by the Strategic Sourcing unit as we develop solicitations for products that are in demand by purchasing customers. In addition, we work with other States and national organizations to identify EPP opportunities in SWCs.

In 2009, Executive Order (EO) #515, Establishing an Environmental Purchasing Policy was issued to help the Commonwealth's Executive Departments further reduce their environmental footprint by focusing on purchasing environmentally preferable products, with a particular emphasis on those with toxic substances. The OSD administers EO 515 and provides overall program management. This includes, but is not limited to, establishing environmental procurement policies and goals.⁶ The EPP Program promotes and tracks the purchase and use of EPPs in SWCs and assists the Strategic Sourcing Managers (SSM) by making sure that the EO 515 requirements are met.

OSD collaborates with several other entities (see Appendix C) to identify and market more sustainable products and services, and to find ways to integrate more EPPs into our contracts. We encourage 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 OSD's EPP website at www.mass.gov/epp.

⁵ Eligible entities in the Commonwealth who may use SWC's: <https://www.mass.gov/service-details/who-may-use-statewide-contracts>

⁶ EPP Program Policies and Goals Webpage, <https://www.mass.gov/service-details/epp-program-policies>

Key Accomplishments in FY19: EO 515 Goals

Each year OSD reports on progress with goals outlined in Executive Order 515:

GOAL: Estimate available data on actual EPP purchases and their associated environmental, health, and fiscal benefits

OSD uses a newly created and implemented online Vendor Report Management System⁷ to collect quarterly sales and environmental data from vendors about products and services. This new reporting system allows the OSD to generate reports to calculate the contract spend on EPPs. It also allows us to calculate various cost savings associated with using EPPs over conventional products/services and to calculate environmental and health benefits associated with EPP products/services. In FY20 we will continue to streamline data collection and reporting.

**Estimated Annual Spend
on EPPs in FY19**
\$399,545,103

EPP Purchases: OSD documented close to \$400M in annual environmentally preferable purchases through vendor reported sales reports made by state agencies and other public entities eligible to use Massachusetts' SWCs. See Appendix D for more information on how OSD calculates the amount of sales attributed to EPPs, and information about the newly

implemented OSD Vendor Report Management System which has enabled us to collect environmental information in over 55 SWCs.

Cost Savings: The Commonwealth documented close to \$5.8 million in savings from purchasing energy and other efficient products in FY19, with lifetime savings over \$31M. Quantifying cost savings helps build the business case for incorporating EPPs into SWCs, and it also is an important metric for the OSD leadership. A breakdown of the savings is provided below, and a detailed review of how the numbers were derived may be found in Appendix A:

SAVINGS FROM....	RESOURCE SAVED...	FY 2019 \$ Savings	Lifetime Cost Savings (includes FY19 savings)
Energy Efficient Lighting (LEDs and Energy Efficient Fluorescent)	energy and maintenance labor	\$ 2,226,351	\$ 20,461,987
EPEAT ⁸ Registered Equipment	energy and packaging	\$2,193,520	\$11,352,604
Remanufactured Toner Cartridges	Plastic, Ink	\$ 1,186,301	
Fuel Efficient Vehicles (executive fleet only)	fuel	\$ 46,000	
TOTAL ESTIMATED SAVINGS		\$5,652,173	\$31,814,591

Environmental and Health Benefits: OSD encourages procurement staff to consider environmental and health impacts of a product or service throughout its lifecycle as part of its best value procurement strategy. Some considerations include raw materials used, the manufacturing process, product packaging and distribution methods, as well as ultimate disposal. Quantifying indirect health and environmental benefits helps validate the benefits of choosing sustainable products but is often difficult and time consuming to do. For this report several tools were used to determine environmental benefits calculations to help measure greenhouse gas (GHG) emissions reductions expressed as metric tons of carbon dioxide equivalent (MTCO_{2e}) from either the use of products containing recycled content, energy and water efficient products, or amount of materials diverted from disposal to recycling facilities. A summary of the results is presented below, and more in-depth analysis on the calculations may be found in Appendix B:

Summary of reductions in MTCO _{2e}		
	FY19	Lifetime (includes FY19 savings)
Purchase Products Containing Recycled Content	1,113	
Purchasing LEDs and Energy Efficient Lighting	7,451	81,651
Purchasing EPEAT Registered Products	29,972	152,519
Diverting Waste from Disposal to Recycling	180,699	
Total Reduction in MTCO_{2e}	219,235	234,170

⁷ <https://massosd.gob2g.com/>

⁸ EPEAT stands for the Green Electronic Council's Electronic Equipment Environmental Assessment Tool, www.EPEAT.net

GOAL: Provide an overview of the FY19 contracts with established environmentally preferable products, including a review of environmental standards set and whether environmental third-party certifications were used

EPP Language in OSD SWC Rebids and Renewals: During FY19 the EPP Program helped many OSD Strategic Sourcing Teams (SSTs) to update or incorporate EPPs into eight contracts – including new contracts, rebids, and renewals. The updates are described in Appendix E.

Finding EPPs in SWCs: OSD has thousands of EPPs within 55 SWCs – and communicating their availability to buyers is challenging. We maintain an *EPP Products and Services Guide*⁹ to help buyers find these products/services and recently updated the guide and converted it to an online platform. It includes an alphabetical listing of EPPs available on SWCs, definitions, their required and desired specifications, and provides a link to the buying summary for the associated contract (known as the Contract User Guide¹⁰). For those that just want to search for mandatory and desirable environmental specifications within the contracts, OSD also maintains the *Minimum Environmentally Preferable Products and Services Specifications*¹¹ guide in a searchable excel spreadsheet.

Toxics Reduction Task Force Identifies Chemicals of Concern in Products: To facilitate implementation of EO 515, the Toxics Reduction Task Force (TRTF) was established in 2009 with oversight and leadership by the OSD and the Executive Office of Energy and Environmental Affairs (EOEEA) Office of Technical Assistance and Technology (OTA). The TRTF is comprised of staff from the OSD and OTA and the Department of Public Health (DPH), the Department of Labor Standards (DLS), the Toxics Use Reduction Institute (TURI)¹² and the Department of Environmental Protection (DEP). The TRTF remains a technical advisory group to help the OSD's EPP Program identify additional toxics in products on SWCs and explore safer and healthier options. The goals and objectives of the TRTF are to select priority focus areas for reduction in toxic substances in products or services. For FY19 the TRTF discussed Per- and Polyfluoroalkyl substances (PFAS), Methylene Chloride, N-Methylpyrrolidone (NMP), and flame retardants.

- **Per- and polyfluoroalkyl Substances:** The TRTF continued to discuss Per- and polyfluoroalkyl substances, a family of chemicals commonly referred to as PFAS which have been found in many brands of compostable disposable food service ware. This class of chemical has come under increasing scrutiny from toxicologists, ecologists, and regulators given their persistence and connection to potential health effects.¹³ MassDEP worked towards revisions to the Massachusetts Contingency Plan (310 CMR 40.0000)¹⁴ related to PFAS to establish reportable concentrations and reportable quantities for PFAS, PFAS cleanup standards in soil and groundwater and to define toxicity information that would be required for use in a site-specific risk characterization for PFAS. The TRTF will track progress with this regulation, which could have impacts on numerous products on statewide contracts, including food packaging, firefighting foams, paints, waxes, and polishes.

The TRTF requested that price sheets for GRO35: Foodservice Supplies and Equipment, Institutional Commercial Grade Large and Small, be updated with a PFAS disclosure. Compostable dishware sold on this contract are required to have a third-party environmental certification including the Biodegradable Products Institute (BPI), Cedar Grove Composting Approved, OK Compost – TUV Austria, Australian Bioplastics Association, Japan BioPlastics, Association, and DIN CERTCO (European Union). However, criteria in these certifications to reduce/eliminate PFAS will not have gone into effect until January 2020. The TRTF recommended that vendors provide a disclosure in their price sheet on whether products contained PFAS, and the GRO35 contract manager worked with the vendors to update their price sheets to

⁹ <https://www.mass.gov/handbook/environmentally-preferable-products-and-services-guide>

¹⁰ <https://www.mass.gov/service-details/find-a-statewide-contract-user-guide>

¹¹ https://www.mass.gov/files/documents/2016/09/wf/epp-specifications_0.xlsx

¹² TURI is located at UMass Lowell and was established by the Massachusetts Toxics Use Reduction Act (TURA) of 1989. TURI collaborates with businesses, community organizations and government agencies to reduce the use of toxic chemicals protect public health and the environment and promote the competitiveness of Massachusetts businesses. www.turi.org

¹³ <https://www.epa.gov/pfas>

¹⁴ <https://www.mass.gov/lists/final-pfas-related-revisions-to-the-mcp-2019>

include the disclosure. In FY20, a review will be conducted of the products to make sure they meet the existing requirements.

- **Safer Firefighting Foam:** The TRTF reviewed the New York State Pollution Prevention Institute’s report *Per- and Polyfluorinated Substances in Firefighting Foam*¹⁵ developed for the Interstate Chemicals Clearinghouse.¹⁶ This report “summarizes the results of precursory work to assist with scoping an alternatives assessment of the use of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in Class B aqueous film-forming foam (AFFF), also known as “firefighting foam.” The TRTF will continue to discuss alternatives and find out more from those that are using the alternatives on whether they could be added to an OSD statewide contract.
- **Methylene Chloride and N-Methylpyrrolidone:** The TRTF continues to discuss methylene chloride, also called dichloromethane, and N-methylpyrrolidone (NMP) as chemicals of concern. Methylene chloride is a volatile chemical that has a variety of uses, including paint and coating removal and it is found in a range of adhesives and other products used for automotive care, lubrication, lithography, and general cleaning.¹⁷ NMP is a solvent used in paint and coating removal, and it also is present in a range of coating products, including adhesives, cleaners, dyes, and more.¹⁸

TURI worked with the U.S. EPA, UMass Lowell researchers, paint stripper product manufacturers, bathtub refinishers and furniture refinishers to identify and test safer solvent blends that have general paint stripping performance comparable to that of methylene chloride based paint strippers and documented their findings in the *Assessment of Safer and Effective Alternatives for Coating Removal Products*.¹⁹ In addition TURI worked with manufacturers to develop “a safer alternative to dangerous paint strippers that have claimed dozens of lives around the country.” The safer product is available for sale in the US and Canada and is marketed under the Super Remover New Generation²⁰ brand. OSD will explore how to add this product to a statewide contract. One of the manufacturing sites is the US Pack in Leominster, Mass.

In FY19 the TRTF worked with the OSD’s Maintenance, Repair and Operations vendors to request a list of products containing these chemicals of concern from their catalogs. Since the Federal Administration announced its intentions to ban methylene chloride in paint and coating removal products from retail distribution facilities²¹, the TRTF decided to distribute information about the EPA’s intentions to the vendors. The TRTF will continue to evaluate other products and alternatives to explore whether there are enough alternatives available to recommend removal of products with these chemicals from the contracts.

- **Flame Retardants:** The TRTF hopes to review other products in SWCs containing flame retardants, including firefighting foam and electronics, and will explore alternatives recommendations.

GOAL: Offer updates on new and innovative EPPs, technologies and services

OSD added *commercial* grade battery powered landscape equipment (mowers, blowers, and other handheld landscape equipment) to Statewide Contract FAC88 - Lawns & Grounds, Equipment, Parts and Services.²² OSD applied for and received two grants from the **National Association of State Procurement Officials Green Technical Assistance Funds**, developed the first *commercial* powered battery landscape equipment specification’s in the nation, and held two unbranded full day technical assistance workshops for the purpose of bringing together technical experts, buyers, and vendors to explore

¹⁵ http://theic2.org/article/download-pdf/file_name/Per_and_Polyfluorinated_Substances_in_Firefighting_Foam_040919.pdf

¹⁶ <http://theic2.org/>

¹⁷ <https://saferchemicals.org/get-the-facts/chemicals-of-concern/methylene-chloride/>

¹⁸ <https://saferchemicals.org/get-the-facts/chemicals-of-concern/n-methylpyrrolidone/>

¹⁹ https://www.turi.org/Our_Work/Research/Paint_and_Coating_Removal

²⁰ https://www.superremover.com/en_US/

²¹ <https://www.epa.gov/newsreleases/epa-bans-consumer-sales-methylene-chloride-paint-removers-protecting-public>

²² FAC88: Lawns & Grounds, Equipment, Parts, and Services Statewide Contract User Guide, <https://www.mass.gov/media/844091/download>

environmental, health, and cost issues. See Appendix G to read the final report on this project.

OSD also hosted the third annual Fall Fleet Event in October 2018, and the focus of the event was on sustainable options, presented in partnership with DOER. At the event 85 attendees and 63 vendors were able to network with fleet statewide contract vendors, learned about new technologies, heard from organizations about sustainable transportation initiatives and funding, and were able to see vehicle options and participate in an EV Ride-And-Drive program sponsored by DOER.

GOAL: Provide an overview of how OSD encourages state contractors to incorporate EPPs and sustainable practices in their operations

The OSD EPP Program updated and refined the *Current Environmental Practices Form*,²³ which is a form included in bids to assist in evaluating a bidder's environmental practices. It also signals to bidders that the Commonwealth is interested in business practices that foster a sustainable approach to conducting their own operations. The Commonwealth considers such initiatives part of the "best value" of procurement and allows sourcing teams the ability to assign evaluation points to this form.

GOAL: Supports the development of appropriate training and outreach on procuring EPPs and identification of their fiscal, environmental, and health benefits

Throughout the year the OSD's EPP Program presented information and provided resources to buyers, vendors, other states, and non-profit organizations (see Appendix C for a list of some of the non-profits that we have partnered with) about EPPs in SWCs. In addition, we continue to work with the OSD's Training unit to incorporate and present information about EO 515 at trainings and coordinate with the OSD's Marketing, Communication, and Events team (MCE) to market EPP information to our customers/constituents:

- **EPP Website:** The OSD's EPP website was redesigned and updated to allow for easier searching.²⁴
- **Buy the Way, Blog Posts, and Tweets:** The EPP Program provides content to include EPP highlights on a regular basis through multiple OSD communication platforms – see Appendix G for a list and links to highlighted articles.
- **Trainings and Outreach:**
 - **OSD Trainings Incorporate Buyer and Vendor EPP Requirements:** The OSD's Strategic Sourcing Certificate Program, and other trainings, includes information about EO 515 and buyer and vendor requirements as outlined in the *Environmentally Preferable Products (EPPs) Procurement Program General Information, Requirements and Guidance*.²⁵
 - **Toxics Specific:** An industrial safety and health inspector from DLS participates in the TRTF to represent workplace safety concerns. DLS works collaboratively with the DPH's Work-Related Asthma Surveillance and Prevention Program and conducted 49 site inspections at schools with a focus on custodial areas and kitchen chemical products. DLS included recommendations to select products that do not trigger asthma from statewide contract FAC85: Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies.²⁶ DLS also conducted six inspections in response to employee injuries involving an asthma attack, chemical burn, or floor stripping which included an evaluation of chemical selection and use, personal protective equipment, and employee training. DLS includes recommendations for EPP products and FAC85 in trainings and webinars and hosted 16 workshops for school custodians in which choices of cleaning products, labeling, and asthma prevention were discussed.
 - **Other Events:** OSD's EPP Program participated in and presented at several events to provide information about the benefits of EPPs in OSD SWCs. A list of these events may be found in Appendix G.

²³ <https://www.mass.gov/doc/bidder-current-environmentally-preferable-productspractices/download>

²⁴ www.mass.gov/epp

²⁵ <https://www.mass.gov/doc/epp-general-information-requirements-and-guidance/download>

²⁶ <https://www.mass.gov/doc/fac85/download>

Conclusions and Considerations for FY 2020

The OSD's EPP Program partners with many Commonwealth departments, and other state and non-state entities to market and provide technical assistance to buyers on the multitude of EPPs available. In addition, the OSD's EPP Program works with OSD SSTs to established minimum environmental standards for products and services found in 55 SWCs. Together these programs and policies have contributed to purchasing nearly \$400 million of products and services that have a reduced impact on human health and the environment during FY19. In addition, select products have saved the Commonwealth close to \$5.8M in FY19 and significantly more if calculating lifetime savings. OSD's EPP Program calculated a reduction in more than 200,697 MTCO_{2e} in FY19 from using select products, which is equivalent to removing carbon dioxide emissions from 42,611 vehicles for one year.

In FY19 we continued to work with the OSD SST's to include environmental specifications and requirements in bids, worked with Strategic Sourcing Managers to update better environmental reporting in our new vendor reporting system, updated the *EPP Products and Services Guide* making it easier for buyers to search for EPPs in OSD SWCs, and hosted three workshops to highlight commercial battery powered landscape equipment and sustainable fleet and transportation products. We participated in numerous events and workshops, sharing information about OSDs EPP Program.

The TRTF identified Per- and Polyfluoroalkyl (PFAS), Methylene Chloride and N-nethylpyrrolidone, and Flame Retardants as chemicals of concern and continued to review products containing these chemicals in SWCs to identify alternatives. One such product was put on the market under the Super Remover New Generation brand as a result of a TURI project, which is an alternative to methylene chloride-based paint strippers.

The Commonwealth is working on many different fronts to shift from an 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. The measures reported in this report demonstrate the immense value of the OSD's EPP Program and helps confirm the business case for supporting sustainable product choices.

In FY20 the OSDs EPP Program will:

- Continue to work with Strategic Sourcing Managers to refine data requirements for vendor environmental reporting and work towards automating data collection
- Improve outreach on EPPs to buyers and vendors through the OSD's newsletter, *Buy the Way*, guides, fact sheets, and social media
- Support statewide programs to promote other environmental initiatives and foster partnerships with national organizations to pool resources and market successes
- Review various chemicals in products on SWCs and offer research and procurement advice on alternatives

Appendix

Appendix A: Calculating Cost Savings

Cost Savings from Energy Efficient Light Emitting Diodes (LEDs), Including Labor Savings:

OSD works closely with staff who bid out contracts to specify energy efficient lighting in all applicable SWCs. This year only purchases of LEDs were calculated, since they have become a product of choice among buyers in the marketplace. They use much less energy, last longer than incandescent bulbs, do not contain mercury as is the case with compact fluorescents, and provide labor savings from reduced maintenance.

Cost savings were calculated by tallying the number of energy efficient light bulbs from vendor reported data, sorting them by wattage, and calculating the amount of energy saved compared to using an incandescent equivalent. The results were entered into a tool called *EnviroCalc*, which calculates cost savings and other environmental benefits. This tool was designed by OSD staff many years ago and it is pre-populated with formulas from other online calculators to automatically determine the savings in energy usage, costs, and reductions in labor. The table below reflects estimated cost savings from using LEDs and energy efficient lighting.

Estimated Energy Cost Savings from LEDs		
Estimated Annual Savings	FY19	Lifetime (includes FY19 savings)
LED's	\$1,769,461	\$15,454,972
Reduced Maintenance Labor	\$456,890	\$5,007,015
Total:	\$2,226,351	\$20,461,987

Cost Savings from Energy Efficient Office Equipment:

The Commonwealth requires computers, laptops, tablets, monitors, copiers, and multifunctional devices sold from SWCs to be listed on the Electronic Product Environmental Assessment Tool (EPEAT) registry, which is managed by the Green Electronics Council.²⁷ The registry verifies that products meet multi-attribute environmental performance standards for electrical products, including component substance management, product packaging, design, product longevity, and end-of-life management. The registry also includes a lifecycle assessment and corporate responsibility component. Through vendor-reported data, the EPP Program quantified the purchase of nearly 149,806 EPEAT registered devices through various SWC. OSD uses the Green Electronics Council's EPEAT Benefits Calculator²⁸ for servers and computers and displays and the Electric Environmental Benefits Calculator²⁹ for imaging equipment to quantify annual and cumulative lifetime cost savings as shown below:

Estimated Cost Savings from Energy Efficient Office Equipment for FY19		
	FY19	Lifetime (includes FY19 savings)
EPEAT Registered Computers, Laptops, Tablets, Monitors	\$1,436,520	\$7,182,605
EPEAT Registered Copiers and Multifunctional Devices	\$757,000	\$4,170,000
Total:	\$2,193,520	\$11,352,605

Cost Savings from Using Remanufactured Laser Printer Toner Cartridges:

Remanufactured toner cartridges (remans) are produced from recycled empty toner cartridges that are disassembled, inspected, cleaned, reassembled, refilled, and quality assurance tested to ensure optimal performance. In 2012, the ITD/OSD Enterprise Cartridge Acquisition Policy³⁰ was implemented that required all Executive Agencies to purchase remanufactured laser printer toner cartridges whenever they are available. This requirement also applies to Non-Executive Agencies using Commonwealth Information Technology Capital Funds.

²⁷ The Green Electronics Council, www.greenelectronicscouncil.org

²⁸ EPEAT Benefits Calculator: <https://greenelectronicscouncil.org/epeat-benefits-calculator/>

²⁹ <https://greenelectronicscouncil.org/epeat-benefits-calculator/>

³⁰ ITD/OSD Enterprise Cartridge Acquisition Policy: <https://www.mass.gov/files/documents/2016/07/ox/enterprise-toner-cartridges-policy-itdandosd.docx>

Remans are available on SWC ITC66: Copiers, Printers, Scanners and Related Devices and Services.³¹ They 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 also are required to offer cartridge recycling at no cost to customers and some may offer discounts for the return of cartridges.

In FY19, OSD calculated total savings from choosing to use remans over the cost of using OEMs. All remanufactured and OEM printer toner cartridges sold were tallied from vendor reported data, an average cost per cartridge was calculated, and the difference between the two was multiplied by the number of remanufactured cartridges sold, resulting in the following savings:

Estimated Savings From Using Remanufactured Printer Toner Cartridges for FY19					
	# of OEM	Average \$ Per OEM	# Reman	Average \$ Per Reman	Total Contract Cost Savings From Using Remans
FY 2019	109,901	\$133	17592	\$67.43	\$1,186,301

Cost Savings from Using Fuel Efficient Vehicles:

The DOER's Leading by Example Program reviewed data from Executive Agency purchases in FY19 and calculated savings of a total of \$46,000 from improved fuel efficiency. In FY19, the average MPG of purchased was 20 MPG, compared to the FY18 average of 15 MPG of turn-in vehicles (36% increase). This was calculated by comparing the vehicles turned in across 11 Executive Branch agencies to the 125 new vehicles acquired in FY19 and calculating the cumulative fuel costs associated with the changes. In FY19 there was an 15% decrease in the average fuel gallons used per vehicle and \$0.07 decrease in cost per fuel mile compared to a 4% decrease and \$.05 from FY18.

In FY19 DOER re-opened the VEH102: Advanced Vehicle Technology Equipment, Supplies and Services³² statewide contract and added new equipment for electric vehicle supply equipment (EVSE), idle reduction technologies, and aftermarket vehicle conversion technologies to assist in reducing or eliminating vehicle gasoline consumption. In FY19, one Ford F150 was retrofitted, making it the first pickup in the fleet to receive the hybrid conversion. The fleet was also able to downsize 19 of its vehicles from pickup trucks to SUVs. The 19 Nissan Rogues has a combined 28 MPG, resulting in a 14 MPG average increase over the vehicles turned in.³³

BEV, HEV, Hybrid Conversions and Estimated Fuel Efficiency Savings for FY19					
	Hybrid (EV)	Plug In Hybrid (PHEV)	Battery Electric (BEV)	Hybrid Conversion Completed	Estimated Fuel Efficiency Savings
FY2019	19		4	1	\$46,000
TOTALS FY17-FY19	34	1	10	56	\$122,000

³¹ ITC66: Copiers, Printers, Scanners and Related Devices and Services: <https://www.mass.gov/media/1256626/download>

³² <https://www.mass.gov/media/1133201/download>

³³ As reported by DOER's Leading by Example Program, January 2020

Appendix B: Calculating Environmental Benefits

Environmental Benefits from Using Recycled Content Products:

OSD reviewed a number of vendor sales reports to find and quantify products containing recycled content: office papers; janitorial/food service paper goods; plastic products; recycling containers, compost bins, trash can liners and Pay-As-You-Throw bags; remanufactured toner cartridges; recycled mulch; and compost. Weights per unit of measure were calculated, multiplied by the % recycled content, to determine the weight of recycled content material used in the product. Amounts were entered into EnviroCalc, the Commonwealth's environmental procurement calculation tool, to determine various environmental benefits estimates:

Estimated Environmental Benefits Summary from Purchasing Recycled Content Products for FY19	
Environmental Benefit Estimates:	
Weight of Material Recycled (tons)	111,285
Landfill space savings (cubic yards)	368,998
Wood saved (trees)	1,830,206
Energy saved (million BTU)	165,828
Carbon Dioxide Emissions Reduced (tons of CO2)	1,113
Environmental Benefit Equivalent to....	
Annual Solid Waste Generation of:	
# of Households	52,295
# of Loaded Garbage Trucks	18,450
Energy content of # of Barrels of Oil	28,591
Emissions from # of vehicles driven for one year	219

Environmental Benefits From Using Energy Efficient Products:

Quantities of LEDs and energy efficient fluorescent lighting from various contracts were tallied by wattage, and entered into EnviroCalc to determine environmental benefits estimates and benefit equivalents from reduced energy use:

Estimated Environmental Benefits Summary from Purchasing LEDs for FY19		
Environmental Benefit Estimates:	FY19	Lifetime (includes FY19 savings)
Electrical energy savings (kWh)	12,639,009	138,509,692
Carbon dioxide emissions reduced (MTCO2e)	7,451	81,651
Environmental Benefit Equivalent to....		
Annual electricity usage of # homes for one year	1,115	
Emissions from # of vehicles driven for one year:	1,463	

EPEAT registered office equipment, including computers, laptops, tablets, monitors, multi-functional devices, printers, copiers, fax machines, and scanners from various contracts were tallied by EPEAT registration type (gold, silver, bronze) and entered into the Green Electronics Council's EPEAT Benefits Calculator³⁴ for servers and computers and displays and the Electric Environmental Benefits Calculator³⁵ for imaging equipment to quantify annual and cumulative lifetime electrical savings and reduction in MTCO2e. This calculator assists organizations in estimating the environmental benefits of greening their purchase, use, and disposal of electronics.

Environmental Benefits from Purchasing Energy Efficient Office Products for FY19		
Environmental Benefit Estimates:	FY19	Lifetime (includes FY19 savings)
Electrical energy savings (KwH)	42,392,851	215,714,257
Metric Tons of Carbon Dioxide Equivalent Reduced	29,972	152,519
Environmental Benefit Equivalent to....		
Greenhouse gas emissions from # of vehicles for one year	6,364	32,382

³⁴ EPEAT Benefits Calculator: <https://greenelectronicscouncil.org/epeat-benefits-calculator/>

³⁵ <http://app2.erg.com/EEBC-Imagingv1/eebcCalculator.do>

Environmental Benefits from Purchasing Fuel Efficient Vehicles:

The Commonwealth is working to increase the state fleet with highly efficient hybrid, alternative fuel, or electric vehicles. In FY19, the third full year following the promulgation of the Fuel Efficiency Standards, the average miles per gallon (MPG) of the 125 executive fleet vehicles evaluated improved from 15 MPG to 20 MPG -- a 36% increase – when compared with the vehicles turned in.³⁶

Environmental Benefits from Diverting Waste to Recycling:












The OSD collects vendor-reported data regarding materials disposed of, recycled, and composted on various SWCs. In FY19 OSD’s documented materials diverted from disposal to recycling from the FAC86: Solid Waste and Recycling; FAC90: Carpet and Mattress Recycling Services; and FAC96: Records Management, Storage and Archiving Services and Moving Services contracts as listed below. OSD used the EPA’s Waste Reduction Model (WARM)³⁷ to calculate estimated reductions in MTCO2e:

Tons of Waste Diverted From Disposal for FY19	
Material	Tons
Mixed Paper	46,400
Mixed Organics	3,144
Corrugated Cardboard	1,529
C&D	1,429
Asphalt, Brick and Concrete	892
Mattresses	873
Single Stream Recyclables	556
Metal	521
Mixed Plastics	407
Tires	275
Comingled Containers	148
TOTAL TONS	56,171
Environmental Benefits Equivalent to...	
Reduction in MTCO2e	180,669
Greenhouse gas emissions from # of passenger vehicles driven for one year	38,359
Carbon Dioxide emissions from # pounds of coal burned	199,072,452

³⁶ As reported by DOER’s Leading By Example Program, January 2020

³⁷ 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. <https://www.epa.gov/warm>

Appendix C: EPP Partnerships

	<p>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</p>
	<p>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 continued to participate in a national workgroup to discuss flame retardants in furniture and other products. www.ceh.org</p>
	<p>Healthy Schools Network: Non-profit that promotes collaborative research and policy development and advanced systemic reforms in three core areas defining children's environmental health at schools. The EPP Program works with the Health Schools Network to distribute green cleaning information and identify healthier products in schools. www.healthyschools.org</p>
	<p>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 market the FAC100 Category 10 program for innovative environmentally preferable products in MRO contracts. www.masscec.org</p>
	<p>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</p>
	<p>National Association of State Procurement Officials (NASPO) Green Purchasing Committee: The EPP Program Director served on the NASPO Best Practices Committee which works to identify and share best practices, including environmentally preferable (green) purchasing. www.naspo.org</p>
	<p>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. www.nerc.org</p>
	<p>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 provide guidance and comprehensive materials on a broad range of green purchasing issues. www.responsiblepurchasing.org</p>
	<p>Quiet Communities: Non-profit that works with multiple communities across the country to promote clean, sustainable, and quiet outdoor maintenance practices as the valued norm. The EPP Program has worked with QC to advance commercial battery powered landscape equipment in the Commonwealth. www.quietcommunities.org</p>
	<p>Silent Springs Institute: Non-profit that partners with physicians, public health, and community advocates and other scientists to identify and break the links between environmental chemicals and women's health, especially breast cancer. The EPP Program has worked with the Silent Spring Institute on flame retardant research. www.silentsspring.org</p>
	<p>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</p>

Appendix D: Estimated EPP Spend for FY19 through Statewide Contracts

All purchases on the contract were reviewed, and those for EPP Products/ Services were tallied for the year. Some contracts are dedicated EPP contracts, and others have identifiable EPP spend, which has been calculated. Data estimates may fluctuate from year-to-year based on budget availability from buying entities to purchase goods and services. Fluctuations also may be due to issues with consistency of the vendor-reported data. Collecting, consolidating, reviewing, and validating vendor-reported data to measure the success of the EPP Program has been a constant challenge. The OSD's EPP Program typically relies on the information submitted by SWC vendors to track the purchases of environmentally preferable products and services and, per the terms of their respective contracts, vendors are required to submit this data on a quarterly basis. However, vendors are not always consistent with how they classify products as EPP in these reports, which may lead to data omissions or inconsistencies.

The OSD executed an online Vendor Report Management System and the EPP Program worked closely with sourcing leads to incorporate EPP data and required reporting conventions into reporting templates to help with data consistency. The data provided for FY19 was much better, reducing time needed to scrub data. We have been working towards automating the data collection.

Contract Name	Contract Number	FY19 Spend	EPP Product/Service
Clothing, Uniforms, Footwear, Accessories, Personal Care Products, and Bedding	CLT07 & 08	\$650,902.53	Fleece and other environmentally preferable products
Biodiesel and Ultra Low Sulfur Diesel (ULSD)	ENE33 & ENE40	41,425,771.58	B5 Premium ULSD, Biodiesel, Biodiesel Clear
#2 Heating Oil Bioheat, No 4 & 6 Residual Oil	ENE34 & 45	-	#2 heating oil Bioheat, No 4 & 6 Residual Oil
Integrated Pest Management	FAC74 & FAC92	2,348,075.57	Integrated pest management service
Maintenance, Repair and Operations	FAC76/FAC101	726,303.14	All energy efficient lighting, and other products considered EPP or with third party certification
Landscaping Services	FAC77 & FAC103	1,090,982.52	IPM, planting, tree pruning, invasive control, mulching
Landscape Products, Parks and Recreation Equipment	FAC79 & FAC104	1,721,313.97	Compost, mulch, organic fertilizers, recycled aggregate, green roof supplies, recycled plastic products, erosion control products
Water Treatment Chemicals	FAC80 & FAC106	1,248,377.79	Less toxic/non-toxic water treatment technologies
Environmentally Preferable Janitorial Services	FAC81	17,034,759.24	Vendors approved to use third party certified product
Hazardous Waste and Recycling	FAC82	6,047,719.91	Safe management and disposal of hazardous waste
Renewable /Alternative Energy Credits	FAC83 & FAC109	121,905.46	Management of solar energy credits
Environmentally Preferable Cleaning Products, Program, Equipment and Supplies	FAC85	15,702,380.13	All products are environmentally preferable, or third party certified
Solid Waste and Recycling/Pay as You Throw (PAYT) Bags	FAC86	11,464,731.89	Recycling of multiple materials, recycling credits, and PAYT bags
Recycling Containers and Bins	FAC87	4,330,895.54	Recycling bins with recycled content and solar trash/ recycling containers
Lawns and Grounds Equipment	FAC88	394,314.62	Non-gas lawn and grounds equipment
Electricity Demand Response and Forward Capacity Market Services	FAC89	1,490,976.00	Energy demand response program
Carpet and Mattress Recycling Services	FAC90	488,847.00	Mattress recycling (note: there are not carpet recycling vendors yet)
Solar PV Inspection Services	FAC91	24,687.50	Solar panel inspections to extend life of panels
Facilities Maintenance, Repair & Operations with Small Hand & Power Tools	FAC94	6,534.00	Energy efficient lighting, products with third party certification, recycled content, solar, or low toxic

Records Management, Storage, Archiving and Moving Services	FAC96	1,221,079.52	Document destruction recycling services
Walk-in Building Supplies/MRO Industrial and Building Supplies	FAC99 & FAC105	585,135.21	Energy efficient lighting, products with third party certification, recycled content, solar, or low toxic
Building Maintenance, Repair and Operations	FAC100	7,161,299.58	Energy efficient lighting, products with third party certification, solar, or low toxic
Foodservice Supplies and Equipment	GRO29 & 35	1,634,951.61	Compostable dishware, products with recycled content, Energy Star & WaterSense certified, biobased
Prime Grocer	GRO30/38	8,145.03	Organic or locally sourced
Dairy Products	GRO32/36	-	Organic or locally sourced
Drinking Water-General and Emergency Services	GRO34	531,451.73	Onsite filtration system, organic coffee
Baked Goods	GRO37	102.09	Organic or locally sourced
IT Hardware and Service	ITC47	135,346,804.63	EPEAT Registered and Energy Star equipment
IT Asset Lease Service	ITC49	8,633,512	EPEAT Registered and Energy Star equipment
Managed Print Services	ITS69	19,626.55	EPEAT Registered and Energy Star Equipment, management of printing to reduce paper and toner use, transition to paperless
Document Solutions	OFF27	1,437,991.50	EPEAT Registered and Energy Star equipment
Copiers, Printers, Scanners and Related Devices and Services	ITC66, OFF32	49,303,739.96	EPEAT Registered and Energy Star equipment and peripherals, remanufactured toner cartridges
Art and Instructional School Supplies	OFF45	1,366,877.45	Products with recycled content or with third party environmental certifications
Office Products, Recycled Paper & Envelopes	OFF36/OFF47	15,185,688.34	Recycled content paper, envelopes and office supplies in addition to low toxic and third party certified
Office, School and Library Furniture, Accessories & Installation	OFF38	15,480,313.78	Lines of furniture meeting the OSD EPP Criteria
Audio, Video, Multimedia Presentation Equipment and Services	OFF40	14,700,544.50	Energy star equipment
Print, Copy & Mail Services, and Printed Promotional Products	OFF44	5,285,776.12	Printers meet EPP criteria, and all printing on recycled content paper
Windshield and Glass Replacement	OVM08 & VEH103	300,163.31	Windshield glass recycling
Short-Term Rental of Various Light Duty Vehicles	OVM09	34,516.05	Alternative fuel vehicle rental
Management Consultants, Program Coordinators and Planners	PRF61	1,462,695.52	Environmental consulting work
Energy Consultants	PRF62	4,303,310.51	Energy consultants
Environmental Engineering, Diagnostics, and Testing	PRF67	2,190,034.30	Environmental consulting work
Facilities Engineer Services	PRF69	6,305,647.93	Environmental consulting work
Fuel Cards and Fuel Management Services	VEH100	12,237,911.78	Paperless management of fuel purchases
Vehicle Maintenance Management Services & Accident Subrogation Services	VEH84A	3,812,752.23	Preventative maintenance and inspections
Light, Medium, Heavy Duty OEM & NON-OEM Motorized Vehicle Parts, Refined Motor Oil, Lubricants	VEH96	1,063,967.62	Remanufactured, refurbished, recycled auto parts, oil and antifreeze
Light Duty Vehicles - Passenger Cars, SUVs, Trucks, Vans, SSVs and PPVs	VEH98	1,530,039.14	All battery electric, plug-in electric and hybrid electric vehicles

Fleet Information Management System	VEH99	281,832.64	Service that tracks vehicle usage
Advanced Vehicle Tech Equipment, Supplies and Services	VEH102	205,629.86	Electric vehicle supply equipment, idle reduction technologies, and after-market vehicle conversion technologies
Homeland Security, Public Safety, and Traffic Safety Supplies	HLS05	-	Products with recycled content
Telematics	VEH106	3,078.70	Software that assists in optimizes driving
Heavy Duty Vehicle	VEH93	19,658.58	Alternative fuel vehicles - battery, propane
Floorcoverings and Accessories, Floorcovering Installation, Maintenance and Repairs	FAC98	1,571,347.30	Carpet and Hard Surface flooring meet 3d party environmental certifications and have disclosed chemicals and ingredients
TOTAL SWC SPEND		\$399,545,103	

Appendix E: EPP updates in Rebids and Renewals in FY19

<p>OFF47: Office Supplies, Recycled Paper and Envelopes</p>	<p>This contract was re-bid, and EPP mandatory and desirable specifications revised to meet market availability of products. EPPs were added to the market basket, and catalogs were reviewed for compliance with the specifications prior to initiation of the contract. The contract requires vendors to sell products from their approved catalogs, but also allows buyers to request compliant product additions throughout the contract term that meet the required specifications.</p>
<p>FAC101: Facilities Maintenance, Repair & Operations (MRO) Industrial Supplies</p>	<p>OSD continues to work with the FAC101 vendors to incorporate more EPPs into catalogs and remove products that do not comply with the EPP requirements outlined in the participating addendum. The addendum outlines additional environmental requirements. This contract is a National NASPO/ValuePoint contract and OSD participates on the Sourcing Team as an EPP Source Matter Expert.</p>
<p>ITT72: Network Services, Communications Services & Related Equipment</p>	<p>OSD incorporated desirable requirements for cellular phones to meet EPEAT registration requirements and implemented a requirement for vendors to report the number of EPEAT registered devices quarterly.</p>
<p>GRO38: Prime Grocers</p>	<p>Provided language to encourage organic, local, and healthy options.</p>
<p>FAC81: Janitorial Services, Environmentally Preferable</p>	<p>In this renewal, all vendors were required to document that products used in services comply with environmentally preferable specifications. These specifications require vendors to use only products that meet the specifications in SWC FAC85: Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies.</p>
<p>ITS74: IT Project Services</p>	<p>In this rebid, bidders were required to provide information about their current environmentally preferable practices at their facilities and encouraged vendors to use EPEAT registered devices in their own practices.</p>
<p>FAC105: Maintenance Repair and Operations Industrial and Building Retail Products</p>	<p>This contract was re-opened to allow for hardware stores. Bidders were required to document their current environmentally preferable practices at their facilities and provide a list of EPPs that they sell.</p>
<p>GRO35: Foodservice Supplies and Equipment, Institutional Commercial Grade Large and Small</p>	<p>As reviewed in the Toxics Reduction Task Force Chemicals of Concern section above, vendors selling compostable dishware were required to update their price sheets to disclose any products containing PFAS.</p>

Appendix F: Commercial Battery Powered Landscape Equipment Final Report

This report reviews two projects funded by the National Association of State Procurement Officials (NASPO) through the Green Purchasing Technical Assistance Funds (GPTAF). Both grants were provided to the Massachusetts Operational Services Divisions' (OSD) Environmentally Preferable Products Procurement Program (EPP Program) to assist with advancing commercial battery powered lawn equipment in the state. The grant was completed in two phases:

- 2017: Phase 1: Electric Powered Lawn Equipment Project
- 2018: Phase 2: Training and Technical Assistance for Commercial Battery Powered Electric Lawn Equipment



Final Report NASPO
Green TA Grant MA :

Appendix G: Marketing and Communications of EPPs

The following are links to *Buy the Way*, OSD's newsletter, where EPPs have been highlighted:

- **July 2019:** Information on the Flooring; RecycleWorks - <https://bit.ly/2mHtEvy>
- **August 2019:** Commercial-Grade, Zero-Emission Landscaping Equipment: Attend a Learning Session, Discover the Advantages - <https://bit.ly/2Mfl7PU>
- **September 2019:** OSD to Host Three Educational Sessions – Don't Miss These Events! State Fall Fleet Event 2018 and Commercial-Grade, Zero-Emission Landscaping Equipment Training - <https://bit.ly/2zqVaVp>
- **October 2019:** Third Annual Fall Fleet Event – A Success! (focus on Alternative Fuel Vehicles); Responsible, Cost-Effective Disposal of Surplus School Furniture; Advancing Commercial Battery-Powered Lawn Equipment in MA - <https://bit.ly/2q50ngf>
- **February 2019:** Financial Incentives Support Clean Energy Vehicles; Infrastructure and Pest Management: Know Your Options; Another Opportunity to Bid on Prime Grocers Contract - <https://bit.ly/2NwrdZK>
- **March 2019:** Considering an Office Flooring Project? <https://bit.ly/2l0eGNg>
- **April 2019:** New Environmentally Preferable Products and Services Guide — Just in Time for Earth Week!; MassDOT's Initiative to Reduce Carbon Emissions, Noise and Reap Long-term Savings; More Vendor Choices on VEH96; Playground Projects: Resources for Planning, Implementation, Maintenance, and Beyond - <https://bit.ly/2GA4Xem>
- **May 2019:** New OFF47 Office Supplies Contract Launches on June 1, 2019! <https://bit.ly/2YW36rB>
- **June 2019:** MassDEP Walks the Walk with a Greener Fleet; Office of Vehicle Management: Lessons Learned for Vehicle Management and Acquisition, Commonwealth of Massachusetts; Recognized by Green Electronics Council: EPEAT Purchaser Award Recipient - <https://bit.ly/2lPjcOZ>

The following is a list of Events and Presentations in FY19 that EPP Program participated in:

- **NASPO Reach Conference (8/17/18):** This conference brought together NASPO representatives from all member states. OSD EPP Program submitted session on EPPs, which was accepted, and facilitated workshop on EPP entitled "Leveraging the Contract to Create a Framework for Sustainable Purchasing."
- **Commercial Battery Powered Landscape Equipment Trainings (9/26/18 and 9/27/18):** The OSD EPP Program received grant from NASPO to put on two trainings for Commercial Battery Powered Landscape Equipment.
- **OSD Fall Fleet Event (10/3/18):** The OSD EPP Program played a major roll in organizing the third annual Fall Fleet Event, with a theme on sustainability.
- **Trash to Treasure Event (12/20/18) –** This workshop was hosted by MassDEP and the Massachusetts School Building Authority (MSBA) to provide schools with information on best management practices and resources for responsible, cost-effective disposal of surplus school furniture. OSD presented information about SWCs that could assist in this effort.
- **NASPO Green Technical Assistance Funds Webinar (12/4/18) –** OSDs EPP Program presented results of the Green Technical Assistance Funds on the Commercial Battery Powered Landscape Equipment Project.
- **DCR Safety Committee Meeting (12/20/18) –** OSDs EPP Program presented information about Commercial Battery Powered Landscape Equipment on SWC FAC88: Lawns & Grounds, Equipment, Parts, and Services
- **Sustainable Purchasing Leadership Council (1/30/19) –** OSDs EPP Program presented information on how OSD measures progress with environmentally preferable products purchasing in the Metrics and Goals Workshop.
- **Shaping the Future of Sustainability Conference (4/4/19) –** OSD presented information about the EPP Program at the 9th Massachusetts Sustainably Communities & Campuses Conference which connects government, grassroots, businesses and education experts and learners to share best practices, current trends, and resources.
- **Solid Waste Advisory Committee (4/25/19) -** OSDs EPP Program presented information about EPPs in SWCs and reviewed metrics collected as part of our vendor reporting.
- **Commonwealth Executive Chief Procurement Officers Forum (4/26/19) –** OSDs EPP Program presented the EPP Program, policies, how to find EPPs on SWCs, and reporting to executive department CPOs.
- **Leading by Example presentation on Commercial Battery Powered Landscape Equipment (5/14/19) –** The OSD EPP Program participates on the LBE Council, which meets every other month, and presented information about the Commercial Battery Powered Landscape Equipment project.